Strategic Research Equipment Funding Instrument

Application and Funding Guide

Directorate: **Grants Management and Systems Administration**

Date **:** **June 2016**

Contents

List of Acronyms

APR	Annual Progress Report
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CoG	Conditions of Grant
CV	Curriculum Vitae
DA	Designated Authority
DHET	Department of Higher Education and Training
DST	Department of Science and Technology
DVC	Deputy Vice Chancellor
GMSA	Grant Management System Administration
HCD	Human Capacity Development
HDI	Historically Disadvantaged Institution
HICD	Human and Infrastructure Capacity Development
IP	Intellectual Property
IPRA	Intellectual Property Rights Act
LO	Liaison Officer
MD	Managing Director
MS	Microsoft
NEP	National Equipment Programme
NNEP	National Nanotechnology Equipment Programme
NRF	National Research Foundation
PDF	Portable Document Format
PI	Principal Investigator/Primary Investigator
PO	Professional Officer
RE	Reviews and Evaluation
RSA	Republic of South Africa
SADA	South African Data Archive
SARIR	South African Research Infrastructure Roadmap

SET	Science, Engineering and Technology
SRE	Strategic Research Equipment
SSH	Social Sciences and Humanities
VAT	Value Added Tax
VC	Vice Chancellor
ZAR	South African Rand

Glossary of Terms

Consortium	A Strategic Research Equipment Consortium shall comprise of a lead institution, a hosting institution where appropriate, and member institutions that assume joint responsibility for the procurement and long-term sustainable administration, management and replacement of the equipment, through a single contractual agreement between all consortium members and the National Research Foundation (NRF). Consortium Members are restricted to South African public universities and research institutions.
Lead institution	The lead institution shall be the institution that submits an application on behalf of a consortium and assumes the primary responsibility for the housing, running and sustainable management of the equipment. The lead institution will appoint a suitably qualified primary investigator, i.e. an established researcher who is currently active in the relevant field of research, who shall provide scientific leadership.
Hosting institution	The hosting institution will be the lead institution, unless otherwise motivated to house the equipment at another institution, e.g. at a national facility due to a dependency on existing infrastructure at the national facility. The hosting institution will form part of the consortium as a co-applicant; will appoint a technical leader for the research equipment; and take joint responsibility for the administration and sustainable management of the equipment.
Member institution	A member institution will form part of the consortium as a co-applicant. These institutions must have researchers who are currently active in the relevant field of research and contribute to the long-term sustainable running, maintenance and replacement of the equipment. Contributions may be financial or in-kind, such as secondment of staff for operations, maintenance of the systems or training and, shall take into account the relative strengths of the institutional balance sheets of each consortium member.
Participants	Participants will not form part of the consortium agreement but will have access to the equipment as co-users. Co-users will

	contribute in the form of user fees and may include members of the private sector.
Collaborators	Researchers who work jointly on a project, involving the equipment, with the objective of co-publishing and/or co-supervising of post-graduate students. Collaborators may include members of the private sector.
Historically disadvantaged institutions[1]	Historically Disadvantaged Institutions will be those deemed as such by the Department of higher Education and Training as listed below: • University of Fort Hare; • University of Limpopo; • Mangosuthu University of Technology; • University of Venda; • University of the Western Cape; • Walter Sisulu University; and • University of Zululand Also to be considered in this category are the following Universities of Technology: • Cape Peninsula University of Technology; • Central University of Technology; • Durban University of Technology; • Tshwane University of Technology; and • Vaal University of Technology.

[1] As per *Report of the Ministerial Committee for the Review of the Funding of Universities,* Department of Higher Education and Training, October 2013, p170 (http://www.dhet.gov.za/SiteAssets/Latest%20News/Report%20of%20the%20Ministerial%20Committee%20for%20the%20Review%20of%20the%20Funding%20of%20Universities.pdf)

Contact Details

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1. Introduction

The development and retention of high-end scientific and technological skills and competencies is essential for South Africa to transform into a knowledge-based economy. Globally, the generation of new knowledge as well as scientific and technological innovations is recognised as a driver for economic development, job creation and an improvement in the quality of life of a country's citizens. With this vision in mind, the Department of Science and Technology (DST) developed the National Key Research and Technology Infrastructure Strategy in support of improving the state of research equipment at research institutions. Between 2006/07 and 2015/16 the DST in partnership with the National Research Foundation (NRF) has invested in excess of one billion rand in research infrastructure at the various public research institutions.

State-of-the-art research infrastructure required to undertake world-class research and innovation, includes major items of equipment for multi- and/or inter-disciplinary research that requires substantial financial investment for its acquisition and operational costs and, may be too costly to be acquired by an individual institution. World class research equipment may also constitute large or specialised pieces of equipment that are needed to catapult research and postgraduate student training to new levels of achievement. The National Equipment Programme (NEP) and National Nanotechnology Equipment Programme (NNEP) were founded on this basis.

2. Strategic Research Equipment

2.1. Overview

Since the inception of the NEP and NNEP funding instruments in 2005, a number of gaps have been identified indicating that these funding instruments do not support national strategic research infrastructure investments that involve multi-institutional consortia that exceed the NEP/NNEP cap of R10 million per grant investment. The DST and NRF are thus introducing a new funding instrument that addresses these gaps. The introduction of a Strategic Research Equipment (SRE) Funding Instrument will focus on bridging the gap between NEP investments and the investment areas proposed in the South African Research Infrastructure Roadmap (SARIR).

The Call for SRE applications will be open from **20 June 2016 to 12 August 2016**

No late applications will be considered.

The DST-NRF will contribute up to a maximum of R35 million per application only.

The minimum and maximum grant size of the funding instrument will be reviewed by the NRF and the DST on a regular basis.

2.2. Objectives

The objectives of the SRE funding instrument are to:

- Support the acquisition, or development of large research infrastructure that facilitates internationally competitive research in an area in which South Africa excels and/or has a distinct advantage;
- Establish research infrastructure in support of human capital development including technical and applications expertise;
- Establish research infrastructure in support of research and innovation with a potential for socio and/or economic impact; and
- Promote the leveraging of other investments in support of the research enterprise in South Africa.

2.3. Scope of SRE funding instrument

Proposals submitted may be for a complete system or for a suite of complementary components that collectively constitute a single analytical system (e.g. Field Emission Gun Transmission Electron Microscope with Energy Dispersive Spectroscopy). The equipment may be:

- Movable research equipment that can be decommissioned and relocated to another institution; or
- Fixed research equipment that cannot be relocated to another institution (e.g. Gamma-ray Asymmetric Spectrometer).

Given the size and complexity of the equipment, this funding instrument is designed to support only applications from a consortium of research institutions as defined in the glossary of this document.

The NRF encourages local design and development of the next generation of research equipment in South Africa. Therefore, institutions are encouraged to apply for support for the design, procurement, construction, testing and certification of novel research equipment.

2.4. Funding Scope and Duration

The total value for equipment acquisition should **not be less than R15 million**. The DST-NRF contribution **will not exceed R35 million**. The grant **will not** cover the maintenance with the service provider as well as the operational costs associated with the installation and functioning of the equipment.

This grant funds may only be utilised for the purchase, upgrade or development of research equipment as set out in the application and according to the recommendations of the review panel. Funding decisions are made by the NRF taking into consideration the recommendations of the review panel, the availability of funds and the objectives of the funding instrument.

In the event of an improved option or quote being made available after the grant is made, the Lead institution should communicate the reasons to the NRF in writing, providing a clear motivation for the change of supplier/model instrument. This motivation must be endorsed by the Research Management of the employing institution as well as by the consortium members.

This is a once-off grant that **may be spread over a maximum period of three (3) years,** with the year of award being the first of three years. For budgeting purposes, applicants' must provide a clear breakdown of the cost of acquisition over a one-, two- or three-year period.

If the acquisition of the equipment has not been completed within the three-year period, unspent funds may be withdrawn and reallocated at the discretion of the NRF.

3. Eligibility

3.1. Applicant-specific Criteria

- Applications may be submitted by NRF-recognised research institutions such as:
  - South African public universities; and
  - South African public research entities including Science Councils, National Research Facilities, and research laboratories including research hospitals and museums.
- The nominated Primary Investigator at the lead institution:
  - must have held a doctoral degree for at least five (5) years prior to the submission of the application to the SRE funding instrument;
  - must be an established researcher who is currently active in the relevant field of research;
  - must have experience with the same or similar equipment;

- must hold a full-time permanent or fixed-term contract appointment that will extend for a minimum period of five (5) years from the time of awarding of the SRE grant by the DST-NRF; and
- In instances where the primary investigator will be retiring from his/her position at the host institution within five (5) years of submitting the SRE application, a potential successor to take over the management of the equipment must be identified in the application.

The NRF will only consider applications from consortia that meet the criteria outlined in Table 1 that follows.

Table 1: Requirements for Lead Institution, Hosting Institution and Consortium Members

Lead Institution (Main Applicant)
Submits an application on behalf of the consortium. *Appoints a primary investigator, active in the relevant field of research, to take responsibility for the housing, running and sustainable management of the equipment.*

Host Institution (Co-applicant)
Will be the lead institution, unless otherwise motivated to house the equipment at another institution e.g. at a National Facility due to a dependency on existing infrastructure at the national facility. *Will appoint a technical leader for the research equipment;* *Will take joint responsibility for the running and sustainable management of the equipment.*

Member Institution(s) (Co-applicants)
Contribute to the maintenance, replacement and long-term sustainable running of the equipment Contribution may be financial or in-kind, such as deployment of staff for operations, maintenance of the systems or training. *Member institutions must have at least one researcher who is currently active in the relevant field of research.* *Financial contributions shall be relative to the strengths of the institutional balance sheets of each consortium member*

Participant(s) (Co-users)
Will not form part of the consortium agreement *These will be public and private sector users of the equipment who shall contribute in the form of user fees.*

- Consortia must adhere to the following minimum criteria:
  - Each consortium must comprise of a minimum of one (1) historically disadvantaged institution (HDI), as a member institution (refer to definition in glossary). In the event that a historically disadvantaged institution is the lead institution, it is not compulsory to include another historically disadvantaged institution in the consortium.
  - The consortium must identify a lead institution that will house, administer and sustainably manage the equipment.

- The hosting institution will be the lead institution, unless otherwise motivated to house the equipment at another institution e.g. at a National Facility due to a dependency on existing infrastructure at the facility. The hosting institution will form part of the consortium; will appoint a technical leader for the research equipment who has expertise with same or similar equipment; and who will take joint responsibility for the administration and sustainable management of the equipment.
- Include in the application co-applicants that will contribute financially towards the management and maintenance of the equipment. This may include a contribution toward a maintenance contract, cost of a technician/operator, the secondment of staff, operational expenditure, staff training costs and/or other necessary resources to ensure the sustainability and optimal utilisation and maintenance of the equipment, once commissioned.

- An institution may only submit one application as a lead institution in this call. An institution may be a member institution (co-applicant) or a participant (co-user) in multiple consortia. **All applying institutions must declare their role(s) in other consortia in the Phase 1 and Phase 2 application forms.**
- A lead institution may not submit another proposal as a lead institution, for a five (5)-year cycle after their application has been successfully awarded a grant.
- The track records of the primary active researcher at all consortium members will be evaluated during the review process.

Table 2: Eligibility and Grant Criteria Summary for 2016 applications for 2017 funding

Eligibility and Grant Criteria Summary for 2016 applications for 2017 funding	
Eligibility Criteria	All researchers who hold a doctoral degree (for at least five (5) years prior to the application to the infrastructure funding instruments) and are full-time employees or on a full-time fixed term-appointment (for at least five (5) years following the application to the infrastructure funding instruments) in any of the NRF recognised organisations are eligible to apply: • South African public universities; and • Public research entities such as Science Councils, National Research Facilities, research laboratories, including research hospitals and museums. In the case where the applicant is approaching retirement (within 5 years to normal retirement), a successor must be identified. Proposed research must fall directly into any critical focus areas in the broad fields of Science, Engineering and Technology (SET) and Social Sciences and Humanities (SSH) as identified by prospective host Research Institutions, Science Councils and National Facilities. These areas must be aligned with the Grand Challenges as identified in the Ten Year Innovation Plan of the DST, namely: • Space Science and Technology; • Human and Social Dynamics; • Farmer to Pharma; • Energy; and • Global Change. The total value of acquisition of the equipment (excluding maintenance and other costs) should not be less than R15million. The DST-NRF contribution will **not exceed** R35 million. The consortium must be committed to funding the maintenance contract with the service provider as well as the operational costs associated with the installation, functioning and long term maintenance of the equipment.
Maximum period of support	This is a once-off grant spanning a **maximum** period of three years with the year of award being the first of three years. If the acquisition of the equipment has not been completed by that time unspent funds may be withdrawn and reallocated at the discretion of the NRF.
Type of support	For the purchase of research equipment as per application and based on review panel recommendation, the NRF reserves the right to make the final funding decisions depending on availability of funds and objectives of the funding instrument.
Expected outputs and reporting	Annual progress reports for a **ten-year period**, from year of award. In cases where there is a delay in commissioning of the equipment, this would mean that the grantholder must report to the NRF for ten years after the commissioning of the equipment.

4. Contributions

4.1. DST-NRF contribution

- The DST-NRF grant will only contribute toward the purchase or development of the equipment, exclusive of the maintenance contract and operational costs;
- The DST-NRF contribution will range from R15 million to R35 million and may be spread over a maximum of three (3) years for effective cash flow management; and
- **Once a SRE grant award has been made, the DST-NRF will not be liable for any additional costs that may be incurred including those resulting from the devaluation of the ZAR**.

4.2. Consortium contribution

- The **lead institution (applicant)** shall take responsibility for the:
  - Housing of the equipment;
  - Running and sustainable management of the equipment;
  - Administrative function for the consortium;
  - Secretariat for establishing and managing the consortium;
  - The establishment of an appropriate governance structure with the necessary legal agreements; and
  - Annual reporting to the NRF.

- The **hosting institution (co-applicant)**, if different from the lead institution, shall take responsibility for the:
  - Housing for the equipment;
  - Appointment of a technical leader for the running of the equipment who has experience with operating the same or similar equipment; and
  - Running and sustainable management of the equipment.

- The **consortium** as a whole shall provide the necessary:
  - Funding shortfall should the purchase price of the equipment exceed R35 million
  - Research running expenses;
  - Maintenance, service and support of the equipment;
  - Staffing for the operation, maintenance and utilisation of the research equipment, including staff development, retention and succession planning; and
  - Supervision and mentorship of next generation and emerging researchers.

Written authorisation is required from the lead and participating consortia member institutions indicating their firm commitment and support for the procurement and long-term sustainable

operations and maintenance of the equipment. The documentary evidence required is as indicated in Table 3 below:

Table 3: Authorisation documentation required from the lead institution and participating consortium member institutions.

Required Documentation	Phase 1 Application	Phase 2 Application
Lead Institution, Hosting Institution and consortium member approval for procurement and long-term sustainable management of the research equipment	VC/CEO/MD written approval as attachment	VC/CEO/MD written approval as attachment
Lead Institution Contribution and Hosting Institution Contribution	Commitment in Application Form and co-applicant form	Commitment in Application Form
Consortium Member co-application form	Attachment from each co-applicant	
Draft Consortium Contract		Attachment to application form
Key Performance Indicators and targets		Attachment to application form

4.3 Other contribution

Co-investment from other institutions, as well as private sector is encouraged and details thereof must be included in both the Phase 1 and Phase 2 applications.

5. Application Process

The NRF issues a Call for Proposals for the Strategic Research Equipment funding instrument, which is placed on the NRF website, is disseminated to the Research Offices of the various institutions, and the application form is accessible online at https://nrfsubmission.nrf.ac.za. All applications must be duly authorised and approved by the Designated Authority (DA) of the research administration at the institution that submits the application. Applications must be submitted to the NRF electronically by the DA of the submitting institution **no later than 19 August 2016.**

The NRF will not accept more than one application per institution.

The processing of a successful grant application takes approximately twelve months from the time of submission until the commencement of funding.

5.1. Call for Applications

The call for applications will be conducted in a two-phased approach:

- Phase 1: Open Call for Proposals
- Phase 2: Closed Call for Full Proposals for applications that pass the Phase 1 application phase

Phase 1: Call for Proposals

- The Phase 1 Call for Proposals will be an open competitive call in the form of an online application following the standard NRF Online application processes. The purpose of this call is to allow institutions to form a consortium and identify the research and infrastructure needs nationally.
- The applications in this phase will be expected to provide **detailed evidence** on the following:
    - Presenting the scientific case motivating for the need for the requested equipment and the potential impact of the equipment;
    - Research and human capacity development track record of the primary investigators at the consortium member institutions;
    - Current and proposed collaborations; and
    - The strength of the consortium in terms of:
        - Research;
        - Human Capital Development;
        - Optimal utilisation of the equipment;
        - Skilled staff to operate, manage and maintain the equipment;
        - Commitment to ensure the ongoing maintenance costs and sustainable management for the equipment; and
        - A long term plan relating to an income generating financial model for financial sustainability.
- The applications at this phase will also be required to **propose** details on the:
    - The management plan for the equipment including:
        - Governance;
        - Supporting infrastructure;
        - Maintenance and operations;
        - Training interventions; and
        - Access for all categories of users.

- Financials for the procurement and for the sustainable management of the equipment;
- Plan for human capacity development and training;
- Monitoring and evaluation plan detailing key performance indicators, and targets;
- Risk management; and
- An exit strategy at the end of the lifespan of the equipment.

The outcome from this phase will be a review panel recommendation of proposals that may proceed to the Phase 2 application stage for the submission of full proposals.

Phase 2: Call for Full Proposals

- The Phase 2 Call for Applications will be a closed competitive call for the applications that are successful in the Phase 1 review process. This will be in the form of an online application following the standard NRF Online application processes.
- The applications at this phase will be expected to provide **detailed evidence** on the :
    - The management plan for the equipment including:
        - Governance;
        - Supporting infrastructure;
        - Maintenance and operations;
        - Training interventions; and
        - Access for all categories of users.
    - Financials for the procurement and for the sustainable management of the equipment;
    - Plan for human capacity development and training;
    - Monitoring and evaluation plan detailing key performance indicators, targets: and
    - Risk management; and
    - An exit strategy at the end of the lifespan of the equipment.
- The outcome from this phase will be a recommendation for funding from the review panel to the DST-NRF.
- Where deemed necessary, the panel evaluation of proposals may include: (i) a presentation by the applicants and/or (ii) a site visit to the hosting institution, by NRF and DST officials as well as a panel of subject experts, before a final funding decision is made.

5.2. How to Submit Applications

The Call for Proposals for the Strategic Research Equipment Funding Instrument will be open from **20 June 2016 to 12 August 2016.**

The application form will be accessible online at https://nrfsubmission.nrf.ac.za from **20 June 2016**. Applicants are advised to complete their applications as soon as possible to prevent an IT system overload nearer the closing date.

This is an electronic submission system and in order to submit an application the following is required:

- the nominated primary investigator at the lead institution must be registered on the NRF Online system in order to submit an application;
- the primary investigator from each of the consortium members (co-applicants) must also be registered on the NRF Online system;
- where applicable, the main operators of the equipment must also be registered on the NRF Online system; and
- all primary investigators from the consortium institutions, and where applicable main operators of the equipment, must upload / update their *Curriculum Vitae* (CV) as it will form part of the application for review purposes.

If not yet registered on this site, the primary investigators must register on the NRF online submission system at https://nrfsubmission.nrf.ac.za on which the application is being submitted. The primary investigators are urged to complete or update ALL screens of the CV (which are available as part of the online Application), including the Research Profile and Research Outputs screens as it will be considered an integral part of the application. **Failure to complete the NRF Online Registration and CV sections timeously will render the application incomplete and it will not be considered for funding.**

When the final version of the application form is submitted by the applicant (by selecting the *Final Submit button on the online application*), the application will be routed to the DA for internal institutional review and validation. The DA must submit the validated applications to the NRF electronically. Late applications, additional supporting documentation or information received after the closing date, as stipulated in the Call documents, will not be accepted or considered. Applicants must ensure that they adhere to their institution's internal closing date for submission of their application to allow for internal institutional screening and review. The internal closing date will be announced by the respective research offices and is usually at least two (2) weeks prior to the NRF's closing date.

The NRF will not process applications that are incomplete, contain insufficient or incorrect detail, or fail to follow instructions; therefore such applications will be rejected. The application must be completed with sufficient scientific and technical detail to allow comprehensive review and evaluation by peer reviewers. In addition to the electronic application and required attachments, the NRF may request additional information or documentation to support an application. Failure to supply such information or documentation upon request may result in the rejection of the application.

It is important that all applications are screened and approved by internal institutional processes before being submitted to the NRF. Institutional authorities should take particular care regarding the financial information included in the applications.

The NRF assumes that the, Vice Chancellor (VC), or equivalent, through the respective DAs are satisfied with the standard of all proposals validated and submitted, and that the institution approves and supports the proposed research.

5.5 Institutional Responsibility: Research Office

Institutions submitting applications for funding are required to:

- Limit the number of applications to one (1) per institution as a lead institution;
- Ensure completeness of applications,
- Approve and authorise applications submitted, through the institutional management structure;
- Ensure that applicants adhere to the institution's internal closing date for submission of their application to allow for internal institutional screening and review, before submission to the NRF; and
- Ensure that for applications where the institution is a member institution (co-applicant), the institution has declared their role in other consortia and has authorized the participation of the institution through written approval from the VC/CEO/MD.

6. Unacceptable Proposals

The following types of proposals will not be considered:

- Applications that do not meet the eligibility criteria and call requirements;
- Applications without an updated CV of the primary investigator at the lead and consortium institutions (applicant and co-applicant);
- Research equipment that cannot be used in postgraduate student training (or where no plan for such training is provided);

- Cyber-infrastructure or supercomputing facilities;
- Basic research equipment such as laminar flow cabinets, power systems, cold rooms and gas reticulation systems;
- Research equipment with a total price value for acquisition of less than R15 million;
- Renovation of buildings, utilities and facilities;
- Maintenance contracts;
- Equipment costs inclusive of operational costs;
- Proposals that do not include three (3) written quotations or detailed explanations where less than three suppliers are available;
- Proposals where a number of equipment is proposed that are not complimentary in capability and can be regarded as a general list to equip a laboratory;
- Proposals where there appears to be duplication of equipment within departments and / or between regional institutions. It is the responsibility of the applicant to ensure that the relevant background checks with regard to availability and / or access and capacity of existing equipment have been completed. A point of departure for searching for such availability could be the National Research Equipment Database (http://eqdb.nrf.ac.za).

7. Online Application documentation

The details below provide an overview of the sections, which must be completed through the online application process as explained in Section 6.1 above. This overview details the information that must be submitted in order to provide the NRF with a complete proposal. The online documentation is divided into two main sections:

- The *Curriculum Vitae* (CV) Section
- The Application / Proposal Section

7.1 The CV Section

The CV section forms an integral part of the application as it provides information on the track record of the applicant with respect to student training and research outputs. The onus is on the applicant to ensure that this is complete and up-to-date as it forms a vital component of the review and assessment process.

Table 4: CV Section of the Application

Registration Details *
Contact Details*
Qualifications *
Career Profile *
Research Expertise *
Personal Profile
Student Supervision Record
Absence from Research
Books
Chapters in Books
Articles in Refereed/Peer-reviewed Journals
Refereed/Peer-reviewed Conference Outputs
Patents
Keynote/Plenary Addresses
Articles in Non-refereed/Non-peer Reviewed Journals
Other Significant Conference Outputs
Technical/Policy Reports
Products
Artefacts
Prototypes
Other Recognised Research Outputs

7.2 The Application / Proposal Section

This section should be completed in full and is designed to provide the applicant with an opportunity to present the information that is required as per sections ***8.2*** and ***8.2.1*** respectively.

Table 5: Application / Proposal Form

Sections (*as per online Application Form*)	Information required (*see Online Application Process in this regard*)	Documents that would need to be uploaded (*under the Attachments section*)

Applicant and Co-applicant details	• Applicant's institution details
	• Co-applicant details. At least one co-applicant must be from the following Historically Disadvantaged Institutions:
	  ○ Mangosuthu University of Technology
	  ○ University of Fort Hare
	  ○ University of Limpopo
	  ○ University of Venda
	  ○ University of the Western Cape
	  ○ Walter Sisulu University
	  ○ Cape Peninsula University of Technology
	  ○ Central University of Technology
	  ○ Durban University of Technology
	  ○ Tshwane University of Technology
	  ○ Vaal University of Technology
	• In the event that the applicant is from one of the Historically Disadvantaged Institutions in the above list, it is not compulsory to include another as a co-applicant.
	• Upon adding a co-applicant the system generates an 'Equipment co-applicant form that is automatically sent *via* e-mail to the co-applicant for completion.
	• This co-applicant form requests information on the co-applicant of the proposed equipment for research projects and expected student involvement as well as a contribution toward the sustainable management of the equipment.
		Co-applicant forms signed by the VC/CEO/MD of the co-applicant's institution

Description of equipment	• Description of the proposed research equipment. • Justification for the proposed research equipment. • Equipment capabilities. • Describe the complimentary nature of multiple instruments, motivating how they collectively constitute a single analytical research system, where applicable.	N/A
Classification of equipment	• Detail why the equipment is considered to be state-of-the-art.	N/A

Sections (*as per online Application Form*)	Information required (*see Online Application Process in this regard*)	Documents that would need to be uploaded (*under the Attachments section*)

Impact of equipment	• Alignment to national priorities
	• Impact of the equipment either:
	  ○ Nationally;
	  ○ Internationally; or
	  ○ Intra-institutionally
	• Value-add of the proposed equipment and incorporation into the longer-term institutional research plan.
		N/A

Motivation for supplier	• **Quotations** from a minimum of three (3) suppliers should be submitted. • A motivation for a preferred supplier should be provided. In the event where three viable options are not available, the motivation should clearly indicate the reasons for preference and why three quotes were not available. • **Quotations must be valid for at least 12 months from date of submission.**	• Upload the relevant quotes *(under the Motivation for Supplier section)*
Availability of similar equipment	• Detail on whether similar equipment exists at own institution, regionally or elsewhere in South Africa. *Refer* to the National Equipment Database: http://eqdb.nrf.ac.za. *It is the responsibility of the applicant to ascertain what type of equipment, the model, where it is currently situated and its accessibility and present this convincingly.* • Expand why similar equipment is not suitable to applicant's research needs. • Upload Letters/Confirmation from host institution of the identified equipment explaining why applicant is unable to access the equipment.	• Upload Letters / Confirmation on why similar equipment is not accessible.

Proposed research project	• A description of the planned research activities which includes the:
	  ○ Scientific merit of the proposed research in terms of advancing knowledge which contributes to the institution's research strategy, the national research agenda and development trajectory of the country;
	  ○ Qualification and competence of the primary investigator(s) to conduct the proposed research; and
	  ○ How the research will support the acquisition, or development of the equipment to facilitate internationally competitive research in an area in
		N/A

Sections (*as per online Application Form*)	Information required (*see Online Application Process in this regard*)	Documents that would need to be uploaded (*under the Attachments section*)
	which South Africa excels and/or has a distinct advantage.	
Societal/Economic impact of proposed research	• Describe how the proposed research contributes towards improving the quality of life of South Africans. • Briefly describe the type of economic/societal impact. In cases where the nature of the proposed research precludes these types of benefits, state the reasons.	N/A

The Equipment Management Plan is addressed in a separate subsection.

Table 6: Proposal / Application Form: Management Plan Section

Sections (*as per online Application Form*)	Information required (*see Online Application Process in this regard*)	Documents that would need to be uploaded (*under the Attachments section*)
Equipment Management Plan	This section in its entirety is compulsory and should be completed to result in a comprehensive management plan (the complexity of which is commensurable with the value of the proposed equipment), that includes discussion on the subsections provided. It is required that the applicant uploads a **Detailed Project Schedule/Gantt Chart** outlining the timeframe for the procurement and installation process. A template containing the headings for what the Project Schedule/Gantt Chart should outline is provided in the section 'Supporting Documentation' for completion. This forms an integral part of the application and thus no application will be considered without it. (see Appendix).	• Upload the Project Schedule/Gantt Chart (**compulsory**)
Governance	Details on the proposed governance structure between the consortium members including: • Management structure • Cost sharing • IP sharing	N/A
Equipment Management Plan: Building Infrastructure to house the equipment	Detail specific organisational commitments regarding building infrastructure and the geo-technical suitability of the building as well as costs associated with maintenance. • Does the building require refurbishment?	• Attach letter from the supplier/manufacturer • Upload a letter from the VC/CEO/MD

Sections (*as per online Application Form*)	Information required (*see Online Application Process in this regard*)	Documents that would need to be uploaded (*under the Attachments section*)
	• Feasibility of the refurbishment costs, • Is there a building refurbishment plan in place?	indicating commitment to refurbishment and the associated budget.
Equipment Management Plan: Required Services and Utilities	Details on service utilities required to operate the equipment.	N/A
Equipment Management Plan: Safety and Security	Provide a Safety plan to ensure equipment and operator safety.	N/A
Equipment Management Plan: Insurance Arrangements	Detail the insurance arrangements to be made for the proposed equipment.	N/A
Equipment Management Plan: Alternate Power Supply	Detail measures to be put in place to supply alternate power in the event of power outages.	N/A
Equipment Management Plan: Other supportive/feeder equipment available	List and describe feeder equipment available (if appropriate) to support the proposed equipment. Alignment of the research infrastructure with other equipment placed at different departments at their respective research institutions with regard to availability, access and capacity of existing equipment.	N/A
Equipment Management Plan: Operational Responsibility	Provide details on the main operators of the equipment as well as the ability of the applicant to manage same/similar equipment. Detail how technical staff and other users will be provided with the necessary training for diagnostic, maintenance and operational purposes by the selected supplier.	• CVs of operator(s)
Equipment Management Plan: Maintenance and Repairs	Maintenance, operation and repair of the equipment, inclusive of the necessary technical expertise for these tasks. ***Note: These costs will not be covered by the DST-NRF***	Quotes for a five (5)-year maintenance plan/service contract
Equipment Management Plan: Training and Accessibility	• Conducting user training workshops to train and acquaint other users with the applications of the proposed research equipment and train in data analysis and interpretation.	N/A

Sections (*as per online Application Form*)	Information required (*see Online Application Process in this regard*)	Documents that would need to be uploaded (*under the Attachments section*)
	• A comprehensive plan for human resource development, including students, staff, operators and technicians; including mentoring of emerging researchers. • In addition the plan must address the involvement of individuals from the designated groups, particularly young, black and female researchers as well as researchers with disabilities. • Provide number and demographic profile of postgraduate students that will be trained on the infrastructure. • Expand on plans to attract other users. • Fair and equitable access to the equipment.	
Equipment Management Plan: Monitoring and Evaluation *(Operational costs not covered by the NRF)*	• Budget, including all other sources of funding applied for and committed. Applications must clearly indicate how the total cost for the acquisition, housing, operation and maintenance of the equipment applied for will be raised. • This should be complemented with a financially viable costing plan, including an indication of the projected income from other sources to cover operational and maintenance costs including training. This viable costing model must also present charge-out rates that do not prohibit researchers from the public research institutions accessing the equipment. • Risk management and exit strategy to ensure the equipment will be managed post its lifespan • Key performance indicators to ensure the equipment is managed in a sustainable manner.	• Upload a viable Costing Plan • Commitment from VC/CEO/MD of ALL consortium member institutions
Equipment Management Plan: Envisaged Collaboration	• Details of current and future collaborations intra-institutional, regionally, nationally and internationally. • The collaborative initiatives proposed must ensure that the equipment is used sustainably across institutions, especially with historically disadvantaged institutions. • A strategy for international exposure of young researchers, and for attracting international expertise.	N/A
Equipment Management Plan: Envisaged students	• How will the equipment be utilised for postgraduate training; as well as research and innovation activities by academic staff and postgraduate students. • Plans for student training (Please name students where applicable, state degree level, as well as how they will use the equipment in their research). **This should be in line**	N/A

Sections (*as per online Application Form*)	Information required (*see Online Application Process in this regard*)	Documents that would need to be uploaded (*under the Attachments section*)
	with the institution's HCD and postgraduate enrolment plan.	
Equipment Management Plan: Envisaged staff development	• Plans for staff training (Please name staff where applicable, state degree level, as well as how they will use the equipment in their research).	N/A

Mentoring Emerging researchers	• Plans to mentor emerging researchers including:
	  ○ Researchers from Historically Disadvantaged Institutions (HDIs).
	  ○ Black researchers
	  ○ Female researchers
		N/A

Equipment Management Plan: Utilisation Details	• Ensuring access to the equipment for intra- and inter-institution as well as emerging researchers at Historically Disadvantaged Institutions (HDIs). • Details on access to the research equipment or plans for use by staff, students and users from other institutions. • Publications from research involving similar equipment.	N/A
Equipment Management Plan: Current grants held with the NRF	• List all grants held with the NRF, currently and historically over the past 10 years. Include information on all primary investigators from the lead institution and consortium members.	N/A
Equipment Management Plan: Succession planning	• In the event that the applicant leaves the institution, or retires within five (5) years of receiving the grant award, provide information on a potential successor.	• Upload a succession plan • Upload CV of potential successor
Equipment Management Plan: Current and Envisaged Research Collaborations	• List the collaborators and provide information on the nature of current and envisaged collaborations. • For existing collaborations highlight research and/or HCD outputs resulting from the collaboration.	

The sub-sections indicated below form part of the main application.

Table 7: Application / Proposal Section Continued

Sections (*as per online Application Form*)	Information required (*see Online Application Process in this regard*)	Documents that would need to be uploaded (*under the Attachments section*)
Science communication	• If applicable, describe any previous experience/involvement in communicating your research to the community and propose any involvement/ engagement moving forward. It is encouraged that the proposed engagement involves the NRF: SAASTA.	N/A
Co-users/collaborators	• A co-user may be from the same research institution or an external research institution, including private sector. The co-user will be accessing time on the equipment in order to achieve his/her research and training objectives. • Upon adding a co-user the system generates an 'Equipment co-user utilisation form' that is automatically sent *via* e-mail to the co-user for completion. • This co-user utilisation form requests information on the co-users utilisation of the proposed equipment for research projects and expected student involvement.	N/A
Publications emanating from similar equipment	• Select the relevant records from the Research Outputs in your CV that support or show your experience in the use of similar equipment.	N/A
Track Record of applicant	• Provide details of staff members from your institution and other institutions trained by applicant and co-applicant in the last three (3) years. • Clearly identify mentoring of emerging scientists from institutions with low levels of research capacity and activity. • Clearly indicate if training was done on the same or similar equipment, where possible.	N/A
Possible reviewers	At least six (6) suggested independent peers, ***not involved in joint research projects or collaboration*** that can objectively review the proposal. **Nominated reviewers should not be co-applicants, co-users or collaborators and should not be from the applicant's institution.** The responsibility is on the applicant to ensure that the information provided is current and correct. A mix of local and international reviewers is recommended.	N/A
Excluded reviewers	It is also possible to note, with justification, individuals that should preferably **not** be used as reviewers for the application.	N/A

Sections (*as per online Application Form*)	Information required (*see Online Application Process in this regard*)	Documents that would need to be uploaded (*under the Attachments section*)
Attachments	Upload **VC/CEO/MD approval** for procurement and long term sustainable management of equipment from **ALL consortium (co-applicant) institutions**	Co-applicant VC/CEO/MD approval
	Upload the **Letter/Confirmation from the host institution** explaining why the applicant is unable to utilise the equipment available in the country. *Refer to the Availability of Similar Equipment section* (Document type: PDF).	Confirmation Letter
	Upload a **Detailed Project Plan** (*Refer to the Equipment Management Plan sectio*n) outlining the timeframe for the procurement and installation process as well as key performance indicators and targets. (see Appendix) **This forms an integral part of the application and thus no application will be considered without it.** (Document type: PDF/Ms Project).	Project Plan (**compulsory**)
	Upload a **financially viable costing plan (for a ten-year period)** including an indication of the projected income from other sources to cover operational and maintenance costs as well as training. This viable costing plan/including must also present charge-out rates that do not prohibit researchers from the public research institutions accessing the equipment. *Refer to subsection 'Operational Costs' under the Equipment Management Plan section* (Document type: Ms Excel or PDF).	Costing Plan (**compulsory**)
	Make sure that all co-applicant's CVs are updated on the NRF system to allow for a fair evaluation.	Updated co-applicant CVs
	Other documents: Besides the documents uploaded as requested by the NRF, please indicate what 'other' documents was added and why'. Other documents should not exceed more than 1 ½ A4 pages in length.	Provide a Descriptive Title for documents to be uploaded.

Note: Applicants are advised to complete their applications as soon as possible to prevent IT system overload nearer the closing date. Specifically, allow sufficient time for co-users to respond once a co-user utilisation form is created and sent as part of the Online Application Process. It is recommended that individual sections be refined and completed off-line (e.g. as a Word document) before being finally uploaded.

Provide detailed financial details for the proposed equipment through the following:

Table 8: Application/Proposal Form: Budget/Financial Section

	Financial Details required for 2016 applications for 2017 funding	
Classification of Equipment	In the Classification of Equipment Section it is required that an applicant indicates whether the requested equipment is:	
	New Equipment	**Development Equipment**
Required information for each classification	For New Equipment it is required that the applicant provides the following financial information: • Equipment Costs (inclusive of VAT) • Five (5) year Maintenance/Service Contract. • Contribution by own institution • Contribution by other consortium members • Operational Expenditure **(cost to be assumed by Consortium)** • Total Requested from NRF	For Development Equipment it is required that the applicant provides the following financial information: Equipment Costs (inclusive of VAT). Provide a breakdown of the total equipment costs submitted as follows: • Cost for Design • Cost for Procurement • Cost for Construction • Cost for Testing • Cost for Certification/Accreditation • Other Costs (please specify) • Five (5) year Maintenance/Service Costs. **Note:** • No student bursaries will be considered as part of the cost of new equipment development. • Indicate Contribution by own institution • Contribution by other consortium members • Operational Expenditure **(cost to be assumed by Consortium)** • Total Requested from NRF.
Equipment Costs (incl. VAT)	The total value for acquisition (excluding operational, maintenance and other costs) should **not be less than R15million**. The NRF contribution will **not exceed R35 million**. The quoted cost of the requested equipment, including VAT, of the preferred supplier.	
Costs for a five (5)-year Maintenance/Service Contract	Cost for maintenance/service contract over a five (5)-year period. The NRF will not subsidise the cost of the maintenance contract. The consortium needs to commit to covering the cost for a full five year maintenance contract with the preferred supplier.	
Contribution by own institution and other consortium members	The NRF will only contribute towards the cost of procuring/developing the equipment. It is therefore compulsory for the consortium to appropriately budget for all other costs associated with the operations and long term maintenance of the equipment. ***Applications must be endorsed by the VC/CEO/MD of all consortium member institutions to be considered for funding.***	

Operational Expenditure	Applicants must clearly indicate how the total cost for the acquisition, housing, operation and maintenance of the equipment applied for will be raised. This should be complemented with a financially viable costing plan/including an indication of the projected income from other sources to cover operational and maintenance costs including training. Finally the viable costing model must also present charge-out rates that do not prohibit researchers from the public research institutions accessing the equipment. This cost must be assumed by the consortium. ***Note: The NRF does not contribute towards any operational costs incurred.***
Total contribution by other institutions/users	Applicants should indicate whether any other source(s) of funding/financial contributions will be received for the equipment applied for in the infrastructure funding instrument.
Total requested from NRF	This should amount to only the capital cost and cannot exceed R35 million.

8. Evaluation Process

The screening and evaluation process will be conducted in a two-phased approach:

- Phase 1: Internal NRF Screening Process
- Phase 2: Panel Peer-Review of Qualifying Proposals

8.1 Screening Process

All applications will be screened by NRF staff for completeness. If the criteria, described in detail, in this document, are not met, the application will be returned to the institution without review.

Pre-screening will be done on the following criteria:

- Does the applicant meet all other eligibility criteria as per the Funding Guide?
- Are the applicant and co-applicant's CVs updated?
- Is the application complete with all sections filled in and no missing information?
- Are there three quotations from different suppliers? If not, is there a motivation included?
- For applicants within the five (5) year period of retirement, is a succession plan attached?
- Have co-applicants confirmed their part in the consortium and commitment for procurement and sustainable running of the equipment?
- Have co-users confirmed access to equipment?

8.2 Panel Peer-Review of Qualifying Proposals

The Reviews and Evaluation Directorate (RE) of the NRF identifies local and international panel members who are experts in the scientific fields of the applications as well as in the use of the specific equipment. The applications submitted to the NRF undergo a technical review to ensure accountability and appropriate utilisation of funds to be awarded. In addition, a site evaluation may be undertaken at the discretion of the expert peer review panel, before an award is made. The peer review panel undertakes an evaluation process according to the criteria listed in the scorecard below, and makes recommendations to the NRF regarding the funding of the applications.

The following is described below:

- The scoring scale, with clear descriptors on each category, to be used for all components of the Application Form (Table 7);
- The scorecard (Table 8) that provides clear descriptors and weightings for each category; and

- The categories for the funding recommendations emanating from the peer review process.

Table 9: Scoring Scale for the SRE Funding Instrument

Score	Descriptor	General guiding notes	Financials	Scientific Merit	Management Plan	Monitoring & Evaluation	HR Development	Collaboration and Accessibility
5	**Excellent/ Recommended for funding**	This is an **exceptionally strong** proposal that is **well conceptualised** and **strongly motivated** and exceeds all the requirements in this section.	The proposed financial plan is considered outstanding. More than sufficient investment has been secured through consortium members and other sources to ensure the sustainable operations and maintenance of the equipment. There may be **some low probability risks that can be easily addressed.**	The applicant has a **world-leading track record** and the proposed **scientific research represents internationally leading standards** in terms of quality, significance and scientific impact. The proposed research is aligned with the institution's research strategy and development trajectory of the country.	The proposed **management plan is considered outstanding. It represents world-leading standards** in terms of the governance structure and sustainable management of state-of-the-art research equipment and/or facilities. There may be **some low probability risks that can be easily addressed.**	The PI (and co-PIs) has proposed an exceptional plan and sufficiently identified and addressed key risks.	The PI (and co-PIs) demonstrates **an outstanding track record and world-leading** in terms of: • Training and graduating Masters and Doctoral students; • Mentoring young and/or emerging researchers including Postdoctoral Fellows; • Developing researchers from historically disadvantaged institutions and backgrounds; and	The PI (and co-PIs) demonstrates an **outstanding track record in terms of establishing and sustaining collaborations**: • At the intra-institutional and inter-institutional levels (regional and national collaborations); • With international partners; and • With private sector.

							• Training black and female Masters and Doctoral students and Postdoctoral Fellows.	
4	**Good/ Recommended for funding**	This is a **strong** proposal that **fully addresses** all the requirements in this section. However, there are minor issues that the applicant is advised to bear in mind.	The proposed financial plan is considered to be very good. Sufficient investment has been secured through consortium members and other sources to ensure the sustainable operations and maintenance of the equipment. There may be **several low probability risks that can be easily addressed and present**	The applicant has an **internationally competitive track record** and the **proposed scientific research is at the forefront of South African research** in terms of quality, significance and scientific impact. The proposed research is aligned with the institution's research strategy and development trajectory of the country.	The proposed **management plan is considered to be very good. It represents internationally competitive standards** and is at the forefront of South African standards in terms of the governance structure and sustainable management of state-of-the-art research equipment and/or facilities. There **may be several low probability**	The PI (and co-PI) has proposed a very good plan and sufficiently identified and addressed key risks.	The PI (and co-PI) have an **internationally competitive track record** that is at the forefront of South African standards in terms of: • Training and graduating Masters and Doctoral students; • Mentoring young and/or emerging researchers including Postdoctoral Fellows; • Developing researchers from historically disadvantaged	The PI (and co-PI) have **an internationally competitive track record that is at the forefront of South African standards** in terms of establishing and sustaining collaborations: • At the intra-institutional and inter-institutional levels (regional and national collaborations); • With international partners; and • With private sector.

			moderate consequences to the sustainable operations and maintenance of the equipment and/or facility**.**		**risks that can be easily addressed and present moderate consequences** to the management of the equipment and/or facility.		institutions and backgrounds; and • Training black and female Masters and Doctoral students and Postdoctoral Fellows.	
3	**Adequate/ Conditionally recommended for funding / Revise and resubmit**	The proposal meets the **necessary requirements** in this section. However, there are some issues that should be addressed by the applicant and institution before an award is made.	The proposed financial plan is considered to be adequate. Some investment has been secured through consortium members and other sources to contribute toward the sustainable operations and maintenance of the equipment. There may be **medium probability risks that may**	The applicant has a **nationally average track record** and the **proposed scientific research is satisfactory** in terms of quality, significance and scientific impact. There is some alignment in the proposed research to the institution's research strategy and the development	The proposed **management plan is considered satisfactory and represents nationally average standards** in terms of the governance structure and sustainable management of state-of-the-art research equipment and/or facilities. There may be **medium**	The PI (and co-PI) has proposed an adequate plan and has satisfactorily identified and addressed key risks.	The PI (and co-PI) have **a track record that is satisfactory and represents nationally average standards** in terms of: • Training and graduating Masters and Doctoral students; • Mentoring young and/or emerging researchers including Postdoctoral Fellows; • Developing researchers from	The PI (and co-PI) have a **track record that is satisfactory and represents nationally average standards** of establishing and sustaining collaborations: • At the intra-institutional and inter-institutional levels (regional and national collaborations);

			present moderate consequences to the sustainable operations and maintenance of the equipment and/or facility**.**	trajectory of the country.	**probability risks that may present moderate consequences** to the management of the equipment and/or facility.		historically disadvantaged institutions and backgrounds; and • Training black and female Masters and Doctoral students and Postdoctoral Fellows.	• With international partners; and • With private sector.
2	**Fair/Not recommended for funding**	The proposal **partially addresses** the requirements in this section. However, some key issues have not been adequately addressed.	The proposed financial plan is considered to be unsatisfactory. Little/no investment has been secured through consortium members and other sources to contribute toward the sustainable operations and maintenance of the equipment. There may be **high probability risks that may**	The applicant has an **unsatisfactory track record** and/or **the proposed scientific research is not convincing** in terms of quality, significance and scientific impact. There is little alignment in the proposed research to the institution's research strategy and the	The proposed **management plan is unsatisfactory** in terms of the governance structure and sustainable management of state-of-the-art research equipment and/or facilities. There may be **high probability risks that may present significant consequences**	The PI (and co-PI) has proposed an unsatisfactory plan and is lacking in identifying and addressing key risks.	The PI (and co-PI) have a **track record that is unsatisfactory and is nationally lacking** in terms of: • Training and graduating Masters and Doctoral students; • Mentoring young and/or emerging researchers including Postdoctoral fellows; • Developing researchers from historically	The PI (and co-PI) have **a track record that is unsatisfactory and is nationally lacking** in terms of establishing and sustaining collaborations: • At the intra-institutional and inter-institutional levels (regional and national collaborations); • With international partners; and

			present significant consequences to the sustainable operations and maintenance of the equipment and/or facility**.**	development trajectory of the country.	to the management of the equipment and/or facility.		disadvantaged institutions and backgrounds; and • Training black and female Masters and Doctoral students and Postdoctoral Fellows.	• With private sector.
1	**Poor/Not recommended for funding**	The proposal provided **insufficient information, and/or numerous inconsistencies**. Therefore a fair evaluation cannot be conducted. As such this is considered a high risk investment.	The proposal provided **insufficient information, and/or numerous inconsistencies**. Therefore a fair evaluation cannot be conducted. As such this is considered a high risk investment.	The proposal provided **insufficient information, and/or numerous inconsistencies**. Therefore a fair evaluation cannot be conducted. As such this is considered a high risk investment.	The proposal provided **insufficient information, and/or numerous inconsistencies**. Therefore a fair evaluation cannot be conducted. As such this is considered a high risk investment.	The proposal provided **insufficient information, and/or numerous inconsistencies**. Therefore a fair evaluation cannot be conducted. As such this is considered a high risk investment.	The proposal provided **insufficient information, and/or numerous inconsistencies**. Therefore a fair evaluation cannot be conducted. As such this is considered a high risk investment.	The proposal provided **insufficient information, and/or numerous inconsistencies**. Therefore a fair evaluation cannot be conducted. As such this is considered a high risk investment.

Table 10: Scorecard for the SRE Funding Instrument (Phase 1)

Criterion	Details	Weight	Who is evaluated?
Management Plan (Proposed) **(10%)**	Governance: • Feasibility of the governance structure for the sustainable management and administration of the equipment.	10%	Consortium
	Management of the equipment for its lifespan: • Data Management plan to enable the sharing of data emanating from the research conducted on the infrastructure in line with the IP Act (IPRA); • Disaster management policy (fire, theft and other); and • Risk management.		Consortium
	Infrastructure: • Geo-technical suitability to house equipment; • Suitability of building infrastructure (building and fixtures) to house equipment; • The availability of an alternate power supply; and • Availability of feeder instrumentation (if appropriate) for optimal functioning of the equipment.		Lead Institution/Hosting Institution
	Maintenance and operations for the lifespan of the equipment: • Ability of lead institution to manage the infrastructure based on experience managing similar equipment; • Required services and utilities to operate; • Insurance; • Preventative maintenance schedule for at least a 10-year period; • Safety and Security Measures; and • Availability of appropriately skilled staff to operate, manage and maintain the equipment.		Consortium
	Training Interventions: • Operators;		Consortium

	• Technicians; • Users; and • Data analysis and interpretation.		
	Access: • Strategies to access the equipment by the wider research community; and • Charge out rates for different categories of users.		Consortium
Scientific Merit (Detailed evidence required) **(25%)**	Scientific/technical excellence of the current and proposed research activities	10%	Consortium PIs
	Alignment of scientific activities with: • The capabilities of the proposed equipment; • The lead institution's research strategy; and • The development trajectory of the country.	8%	
	Track record: research productivity (specific references: 5-10 years)	5%	
	Potential Impact: • National priorities; • Societal; and • Economic.	2%	
Human Capital Development (HCD) Track record (Detailed evidence required) **(20%)**	Track record in HCD: (over past 5-10 years) of lead and consortium members: • Student training: o Record of postgraduate student training and staff development with the view of obtaining higher qualifications; and o Number of South African Black and female students trained. • Staff development: o Training and development of staff members in order to improve their ability to operate and maintain the research equipment.	20%	Consortium PIs
Human Capital Development (HCD) Plan (Proposed)	Feasibility of HCD and training plan including: • Alignment with institution's HCD and postgraduate enrolment plan; • Staff development; • Succession plan; and	5%	Consortium

(5%)	• Mentoring emerging researchers including:
	  ○ Researchers from HDIs from other institutions;
	  ○ Black researchers; and
	  ○ Female researchers.		

Feasibility of current and proposed Collaborations (Detailed evidence required) **(5%)**	National International Private Sector	5%	Consortium PIs
Financials (Proposed) **(10%)**	• Feasibility of budget for procurement of the equipment; • Feasibility of the investment by consortium members (based on the strength of the balance sheet of the institutions); and • Other sources of investment and/or income.	10%	Consortium
Monitoring and Evaluation (Proposed) **(5%)**	• Key Performance Indicators and Targets; • Risk management; and • Exit strategy to manage the equipment post its lifespan.	5%	Consortium
Feasibility of Consortium (Detailed evidence required) **(20%)**	Strength of the consortium in terms of: • Research (as evaluated under ***scientific merit***); • HCD (as evaluated under the ***HCD track record***); • Optimal utilisation of the equipment (as evaluated under the ***management plan***); • Financial contributions (as evaluated under the ***financials***); • Skilled staff to operate, manage and maintain the equipment including data analysis and interpretation (as evaluated under the ***management plan***);	20%	Consortium

	• Commitment to ensuring the ongoing maintenance costs and sustainable management of the equipment [direct contribution either in cash or in kind e.g. deployment of staff (Council approval needed or Vice Chancellor support). As evaluated under the ***financials***]; and • Long term plan relating to an income generating financial model to recover the cost of operating and maintaining the equipment (as evaluated under the ***financials***)		
Overall Recommendations	• Proceed to Phase 2; or • Do not proceed to Phase 2		

Table 11: Scorecard for the SRE Funding Instrument (Phase 2)

Criterion	Details	Weight	Who is evaluated?

Management Plan (Detailed evidence required) **(30%)**	Governance:
	• Feasibility of the governance structure for the sustainable management and administration of the equipment including:
	  ○ Upgrade, replacement and impact over the life cycle of the consortium;
	  ○ Consortium management structure;
	  ○ Dispute resolution;
	  ○ IP sharing ; and
	  ○ Cost sharing.
	• Legal agreements between lead institution and member institutions describing roles and responsibilities as well as level of commitment.
		8%	Consortium

	Management of the equipment for its lifespan: • Data Management plan to enable the sharing of data emanating from the research conducted on the equipment in line with the IP Act; • Disaster management policy (fire, theft and other); and • Risk management.	3%	Consortium
	Infrastructure: • Geo-technical suitability to house equipment; • Suitability of building infrastructure (building and fixtures) to house equipment; • The availability of an alternate power supply; and • Availability of feeder instrumentation (if appropriate) for optimal functioning of the equipment.	7%	Lead Institution/Hosting Institution
	Maintenance and operations for the lifespan of the equipment: • Ability of lead institution to manage the equipment based on experience managing similar equipment; • Required services and utilities to operate;	7%	Consortium

	• Insurance; • Preventative maintenance schedule for at least a 10-year period; • Safety and Security Measures; and • Availability of appropriately skilled staff to operate, manage and maintain equipment.		
	Training Interventions: • Operators; • Technicians; • Users; and • Data analysis and interpretation.	3%	Consortium
	Access: • Strategies to access the equipment by the wider research community; and • Charge out rates for different categories of users.	2%	Consortium
Scientific Merit (refer to Phase 1 panel recommendations) **(5%)**	Scientific/technical excellence of the current and proposed research activities	5%	Consortium PIs
	Alignment of scientific activities with: • The capabilities of the proposed equipment; • The lead institution's research strategy; and • Development trajectory of the country.		
	Track record: research productivity (specific references: 5-10 years)		
	Potential Impact: • National priorities; • Societal; and • Economic.		

Human Capital Development (HCD) Track record
(refer to Phase 1 panel recommendations)
	Track record in HCD: (over past 5-10 years) of lead and consortium members:
	• Student training:
	  ○ Record of postgraduate student training and staff development with the view of obtaining higher qualifications; and
	  ○ Number of South African Black and Female students trained.
	• Staff development:
		5%	Consortium PIs

(5%)	○ Training and development of staff members in order to improve their ability to operate, diagnose and maintain the research equipment.		
Human Capital Development (HCD) Plan (Detailed evidence required) **(10%)**	Feasibility of HCD and training plan including: • Alignment with institution's HCD and postgraduate enrolment plan; • Staff development; • Succession plan; and • Mentoring emerging researchers including: ○ Researchers from HDIs from other institutions; ○ Black researchers; and ○ Female researchers.	10%	Consortium
Feasibility of current and proposed Collaborations (refer to Phase 1 panel recommendations) **(3%)**	National International Private Sector	3%	Consortium PIs
Financials (Detailed evidence required) **(25%)**	• Feasibility of budget for the procurement of the equipment; • Feasibility of the investment by consortium members (balanced on the strength of the balance sheet of the institutions); and • Other sources of investment and/or income.	25%	Consortium
Monitoring and Evaluation (Detailed evidence required) **(15%)**	• Targets against Key Performance Indicators; • Financials; • Access and usage; • Training; • Exit strategy to manage the equipment post its lifespan; and • Risk management.	15%	Consortium

Feasibility of Consortium (refer to Phase 1 panel recommendations) **(7%)**	Strength of the consortium in terms of: • Research (as evaluated under ***scientific merit***); • HCD (as evaluated under the ***HCD track record***); • Optimal utilisation of the equipment (as evaluated under the ***management plan***); • Financial contributions (as evaluated under the ***financials***); • Skilled staff to operate, manage and maintain the equipment including data analysis and interpretation (as evaluated under the ***management plan***); • Commitment to ensuring the ongoing maintenance costs and sustainable management of the equipment [direct contribution either in cash or in kind e.g. deployment of staff (Council approval needed or Vice Chancellor support). As evaluated under the ***financials***]; and • Long term plan relating to an income generating financial model to recover the cost of operating and maintaining the infrastructure (as evaluated under the ***financials***).	7%	Consortium
Overall Recommendations	• SRE grant recommended; or • SRE grant not recommended		

8.2.1 Funding Recommendations

The peer review panels based on the afore-mentioned evaluation criteria, submitted by the applicant and discussions by the peer reviewers will result in recommendations that will be categorised as follows:

Phase 1 Recommendations:

- **Proceed to Phase 2** – The proposal meets all necessary requirements and is deemed feasible and strong enough to proceed to the next phase of evaluations. There may be some gaps or weaknesses that should be addressed by the consortium as well as strengthening on the areas to be evaluated in the second phase of applications;
- **Do Not Proceed to Phase 2** – The proposal contains significant inconsistencies and gaps which should be addressed by the consortium and renders it non-fundable.

Phase 2 Recommendations:

- **Recommended for funding –** The proposal does not have any gaps or weaknesses apart from minor changes (e.g. to the management plan that may be addressed without requiring any further peer review); **or**
- **Not recommended for funding** – The proposal contains inconsistencies and gaps which should be addressed by the institution and renders it non-fundable in its current format.

Note:

A number of applications may be recommended in the first category but may not be funded for a variety of reasons, including but not limited to:

- The Application is considered too high a risk;
- The Funding Instrument budget being insufficient to fund the applications;
- The application does not comply with all, or some, of the Funding Instrument objectives; or
- The transformational objectives need to be met in accordance to DST directives.

Only one application will be recommended for funding in any Call for Applications cycle.

Appeals will only be accepted if they are of a procedural nature. No appeals on the merit of the proposal will be accepted.

9. Grants Administration

- Grants are paid to the **Lead Institution** where the Grantholder is employed.
- The release of NRF funds for payment will be made according to granting rules used by the NRF. **The period in which the grant will be awarded and the amounts to be released, will be dependent on the project plan of the successful proposal but will not exceed three (3) years.**
- The first release will be upon receipt of the following documentation:
    (i) The **signed Conditions of Grant (CoG),** which declares the consortium commitment towards addressing the additional requirements for installing and maintaining the equipment, including but not limited to the requirements below:

    (ii) A **consortium agreement** detailing the legal arrangements between the lead institution and member institutions. This agreement should describe the roles and responsibilities of each member institution as well as the level of commitment.

    (iii) **Management Plan**, approved by the VC/CEO/MD and the CFO of each contributing consortium member institution, which describes the institution's commitment towards addressing the requirements for installing and maintaining the equipment. The management plan must include:

        - The physical infrastructure for housing the equipment;
        - Appointment of appropriately skilled staff to maintain and operate the equipment; Training of operators and technicians by the supplier of the equipment, as well as ensuring that provision is made for them to access training abroad (the Equipment Related Travel and Training Grants Programme that is managed by HICD at the NRF is geared towards such needs);
        - Ten (10) years' service and maintenance contracts; and

- Sustainability i.e. a non-profit financial model is in place to recover the costs of operating the equipment and that the fees for usage if this equipment does not prohibit researchers from the public research institutions from accessing the equipment.

(iv) The outcome of the tender process, if applicable.

(v) A **Project Schedule/Gantt Chart**.

(vi) **Pro Forma Invoice(s)** from the supplier.

These documents are subject to approval by the NRF.

Subsequent releases of the grant will be based upon receipt of an updated project schedule/Gantt chart.

The final balance of the grant will be released for payment upon receipt of the following documentation:

- A final **Tax Invoice**;
- Information that can be uploaded onto the National Research Equipment Database at the following URL, http://eqdb.nrf.ac.za; and
- An official written letter, signed by the Grantholder and the Designated Authority, of the equipment having been installed and working satisfactorily.

Scenarios for multi-year release of grant funds

Scenario 1: Project plan requires release of grant over three (3) years

Release of Payments	**Documents Required**
First Release	• Signed Conditions of Grant • Consortium Agreement • Pro-forma Invoice • Management Plan • Project Schedule/Gantt Chart • Outcome of tender process (if applicable)
Second Release	• An updated project schedule/gantt chart • An Annual Progress Report
Third Release	• Final Tax Invoice • Equipment Information to be uploaded onto National Research Equipment Database • Official letter of installation and commissioning of equipment

Scenario 2: Project plan requires release of grant over two (2) years

Release of Payments	**Documents Required**
First Release	• Signed Conditions of Grant • Consortium Agreement • Pro-forma Invoice • Management Plan • Project Schedule/Gantt Chart • Outcome of tender process (if applicable)
Second Release	• Final Tax Invoice • Equipment Information to be uploaded onto National Research Equipment Database • Official notification of installation and commissioning of equipment

10. Grantholder Responsibilities

10.1. Reporting

The NRF will continuously monitor and evaluate the progress of the consortium funded under SRE at the lead institution, member institution and participant (co-user) levels as follows:

- The lead institution shall be responsible for the submission of Annual Progress Reports (APR) to the NRF in a format provided by the NRF, against deliverables as outlined in the application form's monitoring and evaluation plan and the signed Conditions of Grant, on the overall performance of the consortium at the institutional level. This APR must be submitted under signature of the VC/CEO/MD. The submission of an APR is a compulsory requirement for the release of funding for years two (2) and three (3) and a contractual obligation;
- On an ongoing basis, the NRF will undertake institutional visits and focus group discussions which will be conducted at the lead institutions to ensure that the research infrastructure is being properly maintained, well-utilised and that postgraduate students and staff members are being trained to utilise and operate the infrastructure.

10.1.1. APR Requirements for SRE

The APR will be based on an **electronic online template** that will be provided by the NRF. The following information will be requested in the APR:

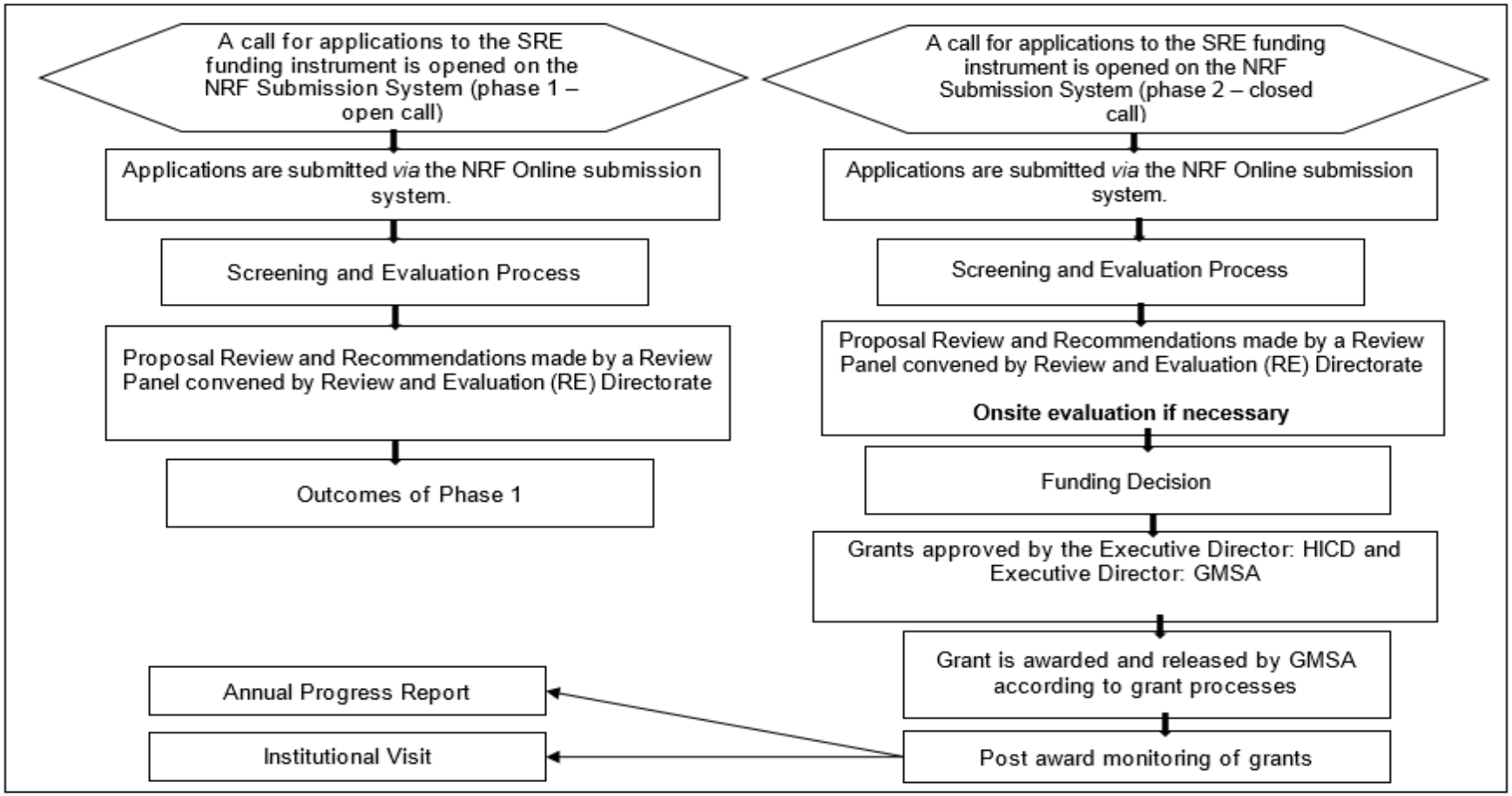
- Number of Honours, Masters and Doctoral students; Postdoctoral Fellows; and researchers, from both the private and academic sectors, that utilised the equipment. Details to be provided include the names and demographics of student, research title and how equipment was used in research;
- Number of Honours, Masters and Doctoral students that graduated with the use of the equipment indicating the name of the student, research title and how the equipment was used in research;
- Number of Postdoctoral Fellows that have used the equipment, stating the name of the fellow, research title and how the equipment was used in research;

- Number of researchers, from both local and abroad, that used the equipment during the year with demographic profiles defined;
- Mentorship of Emerging Researchers
- Revenue generated over the past year from public and private sector users;
- Operational costs over the past year;
- Training of technical staff on the operational, maintenance and diagnostic purposes;
- Training workshops undertaken;
- Collaborative initiatives with historically disadvantages institutions, and other regional players in the same field of research;
- Number of active research collaborators who use equipment;
- Number of collaborative projects associated with the equipment;
- Research and knowledge and/or innovation outputs;
- A brief narrative describing how the equipment impacted the advancement of national priorities; and
- Co-users need to report on actual usage and research outputs achieved.

A call for the submission of Annual Progress Reports (APRs) will be announced by the NRF and all reports must be submitted by the deadline. Grantholders are required to submit APRs **for ten (10) consecutive years following** the installation of the equipment and full payment of the grant by the NRF. Equipment that is installed late must be reported on from the year of the grant award until ten years after installation.

11. NRF Granting Process

These awards will be managed in terms of standard NRF financial policies and procedures. The payment of the grant by the NRF to host institutions will be administered by the Grants Management and Systems Administration Directorate (GMSA) to the relevant institutions' cost centres.



12. General

12.1 Intellectual Property

The SRE funding instrument is expected to contribute to South Africa's knowledge base infields of research related to national priorities. As such, all grantholders are required to publish their findings in peer reviewed journals. The research work published should not compromise the protection of intellectual property emanating from the research and should further not infringe the relevant intellectual property legislations in South Africa "Intellectual Property Rights from Publicly Financed Research and Development Act[2] No. 51 of 2008".

12.2 Ethics

A grantholder, and all users of the equipment is required to maintain the highest ethical and safety standards in conducting the research, particularly when human and animal subjects are involved. It remains the responsibility of the project leader to comply with all relevant regulations in this regard, including those of the institution at which the research is carried out. An ethical clearance certificate (where applicable) must be submitted to the NRF in respect of successful applications before funding can be released.

12.3 Access to data

The data generated from the proposed research must become available to other researchers working in the same field. Therefore, it is important that the data is provided to domain specific databases or in their absence, to the South African Data Archive (SADA).

12.4 Data Storage, Usage and Dissemination

Should the outputs of the research project not be protected, conscious plans need to be made to make the data available to the larger research community through existing databases, some of which can be specific to the research field and others to generic research fields. Furthermore, measures need to be undertaken to ensure effective data management and integrity.

[2] Republic of South Africa, 2008, *Intellectual property rights from publicly financed research and development*. Act 51 of 2008. Government Gazette, 22 Dec 2008. Vol 522, no 31745, RSA.

12.5 Change of Leadership

In the event of the Grantholder leaving the Institution for whatever reason, the NRF must be informed (where possible, prior to the departure of the Grantholder from the Institution), of alternate arrangements for the continued management of the research equipment, use of the equipment and alternate leadership.

A new grantholder must be nominated by the consortium for approval by the NRF. The new grantholder will be required to sign a revised “Conditions of Grant” document and submit a CV as well as a revised management plan. It is therefore intended that the equipment will remain with the Institution and will not move with the current leader. Funding will only continue if the NRF is satisfied that the equipment will be managed at the same level under the proposed alternate leadership.

Annexure 1: SRE Project Plan Template

In accordance with good corporate governance to mitigate potential risks, it is required that each applicant submits a timeline scheduling as part of the application form. The scheduling should specify the milestones and deliverables associated with the requisite infrastructure for housing the equipment and the commissioning[3] of the equipment that was detailed and explained in the Equipment Management Plan. The scheduling must also detail the amount of and time when funds will need to be released by the NRF to assist with the grant projection process.

The table below provides headings to information what should be provided and expanded on by the applicant, preferably using MS Project or Excel. Please note that one-line responses to the headings are unacceptable as this should be a comprehensive plan that addresses the aspects below in detail and this should be in support of the information provided in the Equipment Management Plan.

Criterion	Description/Explanation	Duration		Cost
		Begin	End	Rands
Administration				
• NRF grant award (management plan, claiming of funds, updating CV, submitting APRs promptly) • Access additional financial resources if needed • Finalise building architectural and project plans • Initiate and complete supply chain management processes, including tenders • Insurance • Required services and utilities (e.g. water and electricity supply) including mandatory safety requirements if needed • Plans to attract other users and encourage access				
Equipment				
• Testing of the capabilities of similar equipment, ideally from three different suppliers as per grant rules • Identification of the preferred supplier • Final detail specification of the equipment to be procured, designed or upgraded • Manufacturing of the equipment by the supplier • Installation of the equipment • Pre-testing of the equipment • Commissioning and final sign off of the equipment • Acquiring software licences for the equipment at the stage of final sign off of the equipment • Other				
Infrastructure				

[3] Commissioning refers to the point at which the equipment has been successfully installed, all pre-tests have been completed, and has been signed off by the supplier and Grantholder in terms of technical capabilities and specifications.

• Renovate an existing building or construct a new building to house the equipment • Final check and approval of building specifications by supplier technician/engineer • Safety and security measures in place • Alternate energy supply • IT Infrastructure • Other				
Training				
• Appointment of operator/technician • Training for PI and staff members (operators and technicians) • Training workshops for students and other users • Other				
Maintenance				
• Preventative maintenance schedule defined with supplier of equipment. • On-going maintenance and support • Replacement and upgrade of equipment (or its components) • Other				
Access				

• Proposed usage by the following users:
  ○ Own research activities
  ○ Researchers from the same institution
  ○ Researchers from HDIs
  ○ Academic Users from public research institutions
  ○ Private Sector				

• Costing model for accessing equipment
  ○ Researchers from the same institution
  ○ Researchers from HDIs
  ○ Academic Users from public research institutions
  ○ Private Sector				

• Other				