NATIONAL RESEARCH FOUNDATION (NRF) PROOF–OF–CONCEPT (POC) GRANT CALL

6th June 2011
1.30pm – 3.00pm
I-Cube Auditorium
What will be covered...

1. Research v. Commercialisation
2. The NRF POC Grant Call
3. Grant Processes and Timeline
4. Proposal Evaluation Criteria
5. What’s new in 6th Grant Call
6. NUS POC Website, E-POPs, RITA
7. Q & A
Research v. Commercialization

- Is there a correlation?
- **Research Outcome:** Knowledge dissemination >> Paper publication/Open Source ➔ Inventions

- Other means to disseminate Research outcome?

- Turning Research outcomes into products, implemented processes & services? Possibly...
  - How to make that happen?

Source: fronterer.wordpress.com
Correlation?
From Inventions to Innovations

The Darwinian Sea
The Struggle of Inventions to Become Innovations

Research & Invention

Innovation & New Business

The “Struggle for Life” in a Sea of Technical and Entrepreneurship Risk

Source: National Institute of Standards & Technology
Translational Research & Development

1. Basic Research
2. Proof-of-Concept
3. Proof-Of-Value
4. Product Development
5. Commercial Product
...Simple Journey

Source: National Institute of Standards & Technology
… not exactly

“Valley of Death”

Source: National Institute of Standards & Technology
At Each Stage of The Journey

1. Basic Research
2. Proof of Concept/Invention
3. Early Stage Development (POV)
4. Product Development
5. Production/Marketing

Government/Foundations Funding
- NRF POC
- SMART Innovation/Ignition Grant
- NRF TRD (in partnership with Polytechnics)

Corporate Venture Funds, Equity, Commercial Debts
(investments in a company)

Frequently Fund
- Incubators (NRF TIS)
- Business Angle
- Private Equity
- Industry
- SPRING (POC, POV)
- Venture Capital (through a company)

Occasional Fund
- Government/Foundations Funding
  - e.g., MoE, NRF-CRP, DSTA, EWI, Gates Foundation, etc
  - Private Equity
  - Industry
  - SPRING (POC, POV)
  - Venture Capital (through a company)
The NRF POC Grant Call
Objectives & Grant

- **Objectives:**
  - Funding for proof-of-concept development to researchers in IHLs to facilitate commercialization of technology originating from these institutions
  - **NOT** for Basic Research

- **Grant:**
  - Awarded to projects which are technically sound and commercially viable and work conducted in the IHLs institution
  - Up to S$250,000 for the project
  - Project period should not be more than 1 year
  - 2 Grant Calls per year: typically in Q2 & Q4
Eligibility

- Only IHL-linked staff, students and researchers.
- A lead Principal Investigator (lead-PI) to head the team.
- Project teams may include collaborators from private sector companies.
- Funding (on Manpower, Equipment, Operating) is to support developmental work conducted in the IHLs.
Grant Processes and Timeline
GRANT PROCESS

Pre-Proposal Phase
~ 5 – 6 Weeks
E-POPS

Applicants submit pre-proposal to TIO

Recommendation by NUS Panel for full proposal submission

Full-proposal submission to NRF

Decision making Phase
~ 7 – 10 Weeks

Full-Proposal Phase
~ 3 – 4 Weeks
RITA

Shortlisted to present before NRF panel

Entire Process ~ 6 – 7 months

AWARD
2 Rounds of Reviews

Round I

- Pre-proposals $\rightarrow$ E-POPs (NUS)
  - Duration: $\sim 5 - 6$ weeks, from Grant call to closing.

- Final proposals $\rightarrow$ RITA (NRF)
  - Shortlisted pre-proposals to be submitted as full proposals to NRF
  - Duration: $\sim 3$ weeks, from time notification of shortlist to submission

Round II

- NRF Shortlist from Final Proposals
- Presentation/Interviews
- Decision Making $\rightarrow$ Award
Call Processes and Timeline: Summary

- **Call Opens**  
  16 May 2011

- **Pre-proposal closes**  
  24 Jun 2011

- **Notification of shortlisted pre-proposals**  
  11 Jul 2011

- **RITA - Writing of Full Proposal**
  - **Full proposal Submission**  
    29 Jul 2011

- **Presentation/interview**  
  Sept – Oct 2011

- **Award**  
  Nov/Dec 2011
Proposal Evaluation Criteria
## At Pre-Proposal – IHL Evaluation Criteria

1. **Project Scope:**
   Does the project fit the scope and time-frame of a POC?

2. **Technical Innovation:**
   How novel is the technology?

3. **Technical Competency:**
   Does the team/individual appear capable of carrying out the POC project?

4. **Market Potential:**
   Does the proposed application result in technology that has potential for commercial impact?

5. **Manufacturability/Scalability:**
   How easy is it to scale up the project for mass production?

6. **IHL Support:**
   Is there infrastructure available at the IHL to adequately support the project?
Full-Proposal – **NRF** Evaluation Criteria

1. **Project Scope:**
   Does the project fit the scope and time-frame of a POC?

2. **Technical Innovation:**
   How novel is the technology?

3. **Technical Competency:**
   Does the team/individual appear capable of carrying out the POC project?

4. **Market Potential:**
   Does the proposed application result in technology that has potential for commercial impact?

5. **Manufacturability/Scalability:**
   How easy is it to scale up the project for mass production?

6. **Potential to Lead to Spin-Offs:**
   Is there potential for spin-offs to result from commercial application of the developed technology?
End Goal of a POC Project

- Provide confidence that the result from the project is able to:
  - attract further funding to develop the technology;
  - and/or
  - attract collaboration (preferably) with industry

To bring technology closer to commercializable form

**NOTE:**
- Commercialization of the project outcome need NOT be through a spin-off/start-up
- Commercialization of the project outcome CAN be a license to an existing company
What’s new in 6th Grant Call
Changes in Templates

- Changes in Templates for Pre-proposal and Full proposal
- Changes in Pre-proposal correlates to the changes Full Proposal

<table>
<thead>
<tr>
<th>Pre-proposal</th>
<th>Full Proposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 3</td>
<td>Section 4.3</td>
</tr>
<tr>
<td>Section 5</td>
<td>Section 4.4</td>
</tr>
<tr>
<td>Section 6</td>
<td>Section 3.6</td>
</tr>
</tbody>
</table>

- Please Refer to the Guidelines posted on ILO/NRF websites
3. Commercialization

What do you envision to be the key next step(s) to making impact with this innovation (e.g., sponsored research support, licensing, venture financing)? What is the time frame? Describe both the technical and market uncertainty as well as the risks that might be preventing this idea from proceeding along that path. Please also provide (if any) details of industry assessment/endorsement in the potential outcome of the POC. Any industry endorsement of the potential benefits, commercial value and marketability of the project outcome, or company incorporation as part of the pathway to commercialization during the POC, or pre-secured post-POC funding/customer orders, will be favourably viewed. If future funding support/customer orders is contingent on certain KPIs being met during POC, please make sure that these KPIs are included in this section.

4.3 (Optional) Endorsements by Potential Investors or Customers

Please provide details of industry assessment in the potential outcome of the POC. Any industry endorsement of the potential benefits, commercial value and marketability of the project outcome, or company incorporation as part of the pathway to commercialization during the POC, or pre-secured post-POC funding/customer orders, will be favourably viewed. If future funding support/customer orders is contingent on certain KPIs being met during POC, please make sure that these KPIs are included in this section.
5. Team and Collaborations

List and describe the roles of your respective team member(s); including co-PI(s) and collaborator(s). Have any of the team members established a start-up related to the work? Identify any potential conflicts of interest and how they will be managed. Please also state (if any) team members that are from the private sector such as mentors, entrepreneurs in residence, or anyone in the local business community with expertise working with emerging technologies.

4.4 (Optional) Private sector participation in POC team

POC teams that comprise of private sector personnel, such as mentors, entrepreneurs in residence, or anyone in the local business community with expertise working with emerging technologies, will be favorably viewed. The role and deliverables of these private sector personnel must be clearly stated in this section. Active roles such as development of go-to-market strategies, project managing the POC etc is highly desired. However, note that the POC grant will not fund the portion of the developmental work conducted by these people.
6. Resources and Budget

Approximately what existing resources (people, equipment) do you require to complete the project? Please briefly justify the budget requested. Please also provide details of all grants currently held or being applied for by any of the team members.

3.6 Funding Sources

Please provide details of all grants currently held or being applied for by any of the team members.
NUS POC Website, E-POPS, RITA
NUS POC Grant Call Website

http://www.nus.edu.sg/ilo/faculty/NRF_POC_Grant.html

✓ POC Application Guidelines
✓ Pre-proposal Template
✓ Full proposal Template
✓ Step-by-Step Instructions to access E-POPS
✓ Examples of completed full proposal
✓ Past Awardees
✓ Endorsement form
The National Research Foundation Proof-of-Concept Grant Call

About the NRF POC Grant

The NRF POC grant scheme provides funding for proof-of-concept development to researchers in the institutions of higher learning (IHLs), so as to facilitate the commercialisation of technologies developed in the IHLs.

The NRF POC grant will be awarded through a competitive application process to support projects which are technically proven and have potential for commercially viability. The grant will go towards supporting the R&D costs related to the development in a proof-of-concept project. The development work must be conducted in the IHLs, and should yield results pertaining to viability for commercialisation.

Successful applicants will receive up to $250,000 for their project, which should last no more than 1 year. The actual amount awarded will depend on the extent of work to be carried out.

Download POC Application Guidelines v4.0 (updated 13 May 2011).
NRF Press release, 15 Sep 2008

Assessment and Selection Criteria

Assessment will entail a first selection by IHL panel of reviewers from NRF Enterprise and the Division for Research Administration of the Office of Deputy President (Research & Technology).

See criteria for IHL panel evaluation.

The final selection will be made by a panel of POC reviewers selected by the NRF. Shortlisted applicants will likely be asked to make a presentation before the NRF POC panel.

See criteria for NRF POC Panel evaluation.
E-POPS – for submission of Pre-proposals

http://e-pops.nus.edu.sg

- New user – sign up account using nus email (eg. iloabs@nus.edu.sg)
- Existing user – login using nus email address, and nus password
E-POPS – for submission of Pre-proposal

http://e-pops.nus.edu.sg/

Enterprise POC Online Pre-proposal System (E-POPS)

Email: XXXYY@nus.edu.sg
Password:

Login

First time login? Please Sign Up

* Supported browsers: Internet Explorer and Mozilla Firefox. Javascript support must be turned on
* For NUS staff/student, please log in using your NUS email account (e.g. engxyz@nus.edu.sg) and password.
  Note: please use only the default email address and not the FriendlyMail address.
* All queries may be addressed to nuspoc@nus.edu.sg
RITA – for submission of Full proposals


✓ New user – sign up account using nus email (eg. iloabs@nus.edu.sg) under “Register”.

✓ Existing user – login using nus email address, and nus password
### NRF Proof-of-Concept (POC) 6th Grant Call

#### Programme Details

**Programme ID:** NRF2011NRF-POC001  
**Title:** NRF Proof-of-Concept (POC) 6th Grant Call  
**Strategic Area:** National Research Foundation  
**Synopsis of Program:**

The NRF Proof-of-Concept (POC) grant scheme provides funding for proof-of-concept development to researchers in the institutions of higher learning (IHLs), so as to facilitate the commercialisation of technologies developed in the IHLs.

The NRF POC grant will be awarded through a competitive application process to support projects which are technically proven and commercially viable. The grant will go towards supporting the developmental cost in building a fully functional prototype. The work must be conducted in the IHLs, and should yield results pertaining to viability for commercialisation.

Applicants awarded the grant will receive up to

<table>
<thead>
<tr>
<th>Guidelines and Templates</th>
<th>Type</th>
<th>Name</th>
<th>Modified By</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><img src="https://example.com" alt="file" /></td>
<td>Z011-05 POC Submission Template</td>
<td>Lee Ren Jie</td>
</tr>
<tr>
<td></td>
<td><img src="https://example.com" alt="file" /></td>
<td>POC IHL Proposal Evaluation Template v4.0 (Oct 2010)</td>
<td>Lee Ren Jie</td>
</tr>
<tr>
<td></td>
<td><img src="https://example.com" alt="file" /></td>
<td>POC FAQs</td>
<td>Lee Ren Jie</td>
</tr>
<tr>
<td></td>
<td><img src="https://example.com" alt="file" /></td>
<td>POC Application Guidelines v4.0</td>
<td>Lee Ren Jie</td>
</tr>
</tbody>
</table>

**Links**

There are currently no favorite links to display. To add a new link, click "Add new link" below.
Funding for Basic Research should be sought from other funding sources.

Examples in increasing order of likelihood to be funded:

1. Feasibility Studies
   (upstream research objectives; identification of optimized methods; screening of new compounds; etc)

2. Development of Lab Prototype
   (a first prototype to test the said concept)

3. Development of Working Prototype
   (a prototype product is available and is proposed to be applied outside the lab)

4. Improvement of Working Prototype

What would be a likelihood NRF POC Candidate?
To Contact Us

NUS POC Administration
(under Industry Liaison Office)

National University of Singapore
21, Heng Mui Keng Terrace
Level 5, I^3 Building
Singapore 119613

General enquiries: nuspoc@nus.edu.sg
THANK YOU!

Q & A