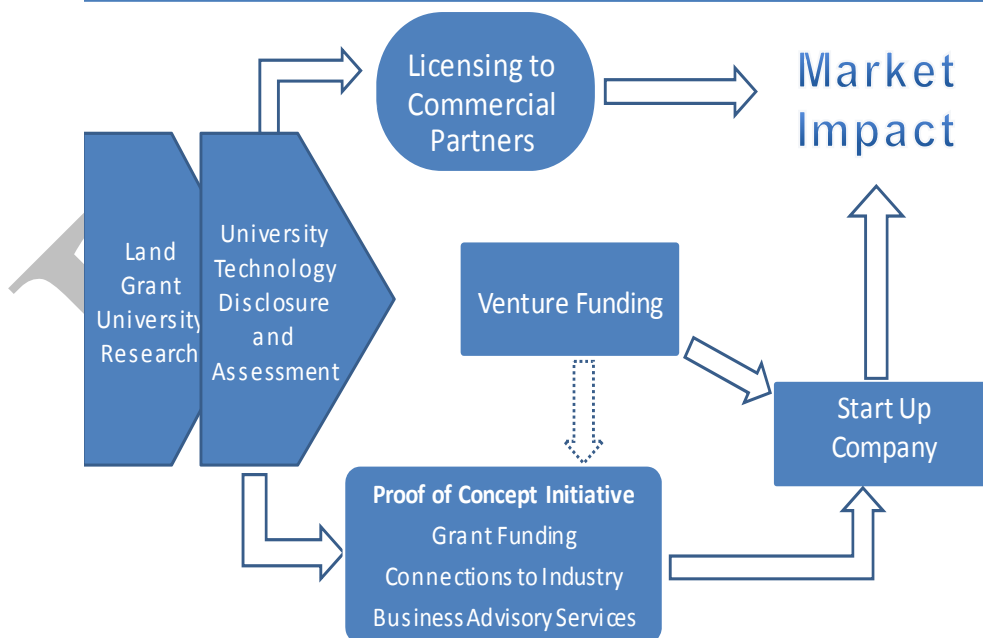


# The Proof of Concept Initiative-North Central Land Grant Institutions

## Bridging the Commercialization Gap



# **The NCRA Proof of Concept Initiative**

## **Background**

An important mission of land grant Universities is to create and transfer the knowledge (i.e. intellectual property) and technologies from research activities to benefit society. While land grant universities have a long history of developing intellectual properties through Agriculture Experiment Stations and transferring the knowledge/intellectual properties through Cooperative Extension activities, since the enactment of the Bayh Dole Act in 1980 technology transfer has become an additional mode for the land grant universities to transfer intellectual properties to benefit society. Technology transfer professionals typically work with University intellectual property and license it to the corporate partners, small business or start-up companies that have proven capabilities to obtain regulatory approval, produce/manufacture, market and disseminate resulting products or services to public. Many Universities have established an infrastructure for technology transfer and commercialization that includes responsibility for protecting intellectual property, licensing and technology transfer activities, and in some cases incubation facilities and early stage funding support for University related startups. Through these efforts Universities have successfully helped commercialize many innovative University technologies and benefit society.

## **North Central Regional Association (NCRA) Proof of Concept Initiative**

The NCRA Proof of Concept Fund ('Fund') is a proposal designed to further accelerate NCRA associated University's commercialization efforts to create measureable economic development by creating partnerships with VC and industry partners. A well-documented<sup>1</sup> challenge to technology commercialization is the early stage funding gap that exists for many discoveries. Discoveries resulting from basic research conducted at universities typically need further development to reach important milestones that are critical to commercial development. It is now well understood that many novel and innovative University-based technologies fail to reach these milestones that bridge the gap (also known as the "valley of death") between research and commercialization. This gap cannot be bridged with traditional sources of research funding such as federal funding since such funds are typically limited to basic research, although

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<sup>1</sup>See <http://bit.ly/9SUNER>,

changes are being made to some of the funding models offered by the Government in recognition of this problem<sup>2</sup>.

### Proposed Plan

The Fund is proposed to advance commercialization of new agriculture and related technologies developed at the NCRA institutions. This initiative will provide funding, up to \$35,000, to develop and prove specific commercial applications of University technologies within 12 to 24 months. The Fund will allow further development, testing, demonstration of prototype or proof of concept work but is not intended to fund basic research. Projects will be selected on the basis of having the greatest potential to either secure a license from industry, lead to the formation of an investor-backed startup company or secure commercialization grant funding such as SBIR/STTR that is currently not available to the universities directly.

To increase engagement with, and interest from industry and venture investors a match funding program is proposed. The Fund would be created with equal contributions from participating Universities (amounts to be determined.). Proposals for funding would be sought (process below) with 80% of funding awarded from the Fund and 20% match being sought from VC or other private or corporate/commercial sources. The match funding should not be federal/state or institutional fund as the goal is to ensure commercial interest and potential of the technology by entities who understand the market and commercial environment. The entities providing the matching fund would be provided with a time limited option to license the resulting technology. Commitments will be sought in advance from VC's or other funding sources to provide match funding to the total value of 20% of the Fund raised via the NCRA. (So for example if 12 states each contribute 20,000 = \$240,000, alternative funding sources would be sought for \$48,000).

In addition to providing much needed "gap" funding, the initiative will facilitate and foster exchange of ideas between the university innovators and business and industry experts. Business and industry experts will be consulted to assess the commercial potential of new technologies

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<sup>2</sup> See <http://www.whitehouse.gov/startup-america-fact-sheet>

and to establish development milestones to be achieved through the use of the Fund. Advisors will be selected based on their technical expertise, experience in early stage technology development and knowledge of the state-of-art in the field.

Implementation Plan: The Initiative will be launched in July 2011 as a two -year pilot program. The initiative will be coordinated by the NCRA IP Managers in consultation with a review committee (to be selected). The IP Managers and Experiment Station Directors will solicit interest from their respective faculty who have disclosed inventions to the technology transfer offices. To be eligible, the tech transfer office must perform an initial commercial assessment. Eligible projects would be forwarded to the review committee for consideration. The review committee will review these proposals, seek additional information when needed, confirm appropriate milestones, budgets and timelines and make final funding decisions.

Projects will be selected on the basis of having the greatest potential to secure a license to industry, establish an investor-backed startup company and/or secure significant federal commercialization funding, such as SBIR/STTR grants, within 12-24 months following award. All funding decisions will be made by the review committee. Funds are expected to be in the range of \$25,000 to \$35,000 each and five to six projects are expected to be funded each year. Funded projects will be performed under the supervision of the disclosing faculty member(s) but may include third party efforts within or outside the University. The project will be expected to meet agreed upon project milestones and deliverables. Funds will only provide reimbursements for expenses; they will not provide salaries for principal investigators, business/market analysis or patent costs and other legal expenses. Funding may be provided for salaries for post-doctoral fellows, graduate or undergraduate students directly involved in the project. Only technologies that have been disclosed to the respective technology transfer office will be eligible for funding.

Grant recipients will be expected to provide quarterly updates during the term of the grant and final report within ninety days of completion of the funded work. Presentations to the NCRA may also be requested.

The Process: The IP Managers with assistance from Experiment Station Directors will solicit interest throughout the year from their respective faculty. Technologies will be reviewed based on the technology area, strength of potential intellectual property, market and

commercialization attractiveness and ease of implementation (the usual screening criteria) as well as having the greatest potential to secure a license to industry, establish an investor-backed startup company and/or secure significant federal commercialization funding, such as SBIR/STTR grants, within 12-24 months following the award

Submission Outline: Interested faculty will complete a short proposal following an agreed upon PowerPoint template (attached). The Review Committee will consist of IP Managers (#), Experiment Station Directors (#), and domain and business /industry experts (#). IP Managers and Experiment Station Directors cannot vote on the projects from their own institution. The proposal should include project title, names of participating faculty and other investigators/post docs as well as the following:

- Total funds requested and budget
- Problem statement- including what unmet market need is addressed by the technology
- Current development state of the technology and what is needed to further marketability
- Business Opportunities: Information on the market and what applications exist for the technology, who will use the technology
- Proof of Concept Aims, Deliverables and major milestones
- Milestone and deliverable
- Timeline for completion of deliverables and final report
- Next steps if POC is successful

Supplementary Information: additional information may be request before final decisions are made. This may include:

- If regulatory approval required, or if human, animal subjects or controlled substances will be used
- Requirements for any special equipment or facilities necessary
- IP and competitive landscape
- Expanded information on market opportunity including contacts made, interest shown by companies or investors.

Review Process: Some of the questions to be considered by the Review Committee during the review process will include:

1. Has the technology been disclosed to the Institution's Technology Transfer Office
2. Is the project technically sound?
3. What is the experience of the PI and other collaborators?
4. What is the strength of any existing and potential new intellectual property that could result from the invention?
5. Has the concept been demonstrated and or reduced to practice sufficiently to justify funding a project at this time?
6. Can the project be successfully completed within the time frame and budget indicated?
7. Does there appear to be a strong market need for the product?
8. Would the product have advantages and features providing a sustainable competitive advantage?
9. Will licensing, further funding and/or new company formation be optimized by project funding?
10. Does the technology answer an unmet need?
11. What is the commercial potential?
12. Does the additional proposed development match a recognized need for performance data, add a desired feature, or obviate a recognized weakness of the technology?
- 13.

#### Eligible costs

- Postdoc or lab support staff salary
- Operating supplies (including any 'equipment' below \$5,000)
- Service facility fees (e.g. DNA sequencing, Soil analysis)
- Travel expenses (only to the extent such travel is necessary to conduct research such as trip to the experimental field)

#### Ineligible expenses

- Faculty salary
- Capital improvements
- Travel expenses not directly required to conduct research
- Equipment over \$5,000 per item
- Publication/membership/fees for services not directly required to conduct research
- Costs generally regarded as 'overhead' as defined in US Office of Management and Budget Circular A-21

## **Logistical Questions – For consideration**

- 1. What sources of funding are available from each of the institutions- ICR/other?**
- 2. How much funding is needed to make this a viable activity?**
- 3. How many projects should be funded?**
- 4. How can money be allocated to individual University projects without being subjected to University ICR?**
- 5. What sort of monitoring and auditing of projects needs to occur?**
- 6. What sort of reporting requirements would NCRA like to see?**

**DRAFT**