

New Mexico State University

ARROWHEAD CENTER

LEADING ECONOMIC DEVELOPMENT FOR NEW MEXICO STATE UNIVERSITY



National Security Technology Incubation Project Continuation Plan

National Security Preparedness Project
Grant No: DE-FG52-07NA28084

DOE/NA/28084-161

Submitted
by
Arrowhead Center
New Mexico State University

September 30, 2008



Live, Learn and Thrive

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“This upon work supported by the Department of Energy [National Nuclear Security Administration] under Award Number DE-FG52-07NA28084.”

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1.0 INTRODUCTION

This document contains a project continuation plan for the National Security Technology Incubator (NSTI). The plan was developed as part of the National Security Preparedness Project (NSPP) funded by a Department of Energy (DOE)/National Nuclear Security Administration (NNSA) grant. The NSTI continuation plan is due by September 30, 2008, as performance measure 1.6.1 (Grant No. DE-FG52-07NA28084, Arrowhead Center proposal, Page 16).

This continuation plan describes the current status of NSTI (staffing and clients), long-term goals, strategies, and long-term financial solvency goals.

The Arrowhead Center of New Mexico State University (NMSU) is the operator and manager of the NSTI. To realize the NSTI, Arrowhead Center must meet several performance objectives related to planning, development, execution, evaluation, and sustainability. This continuation plan is critical to the success of NSTI in its mission of incubating businesses with security technology products and services.

In developing this plan, Arrowhead Center staff reviewed literature on business incubators to adopt a continuation (sustainability) approach tailored to the NSTI mission and resources. The National Business Incubation Association (NBIA) defines a business incubator as “a comprehensive business-assistance program that helps start-up and early-stage firms, with the goal of improving their chances to grow into healthy, sustainable companies¹.” In a study of its most recent statistics, the NBIA estimated that small businesses that were graduates of business incubator programs were twice as likely to survive the first four years of operation as those businesses not associated with business incubators². According to the NBIA, there are currently more than 1,000 incubators in the United States and nearly 5,000 worldwide.

Businesses with applications for national security technologies are recruited for the NSTI program. The Arrowhead Center and its strategic partners provide business incubation services, including hands-on mentoring in general business matters, marketing, government contracting, management, accounting, and finance. Additionally, networking opportunities and technology development assistance are provided.

As stated in the NSPP, the NSTI encourages the use of technologies applicable to national security projects while promoting the creation of new businesses. The NSTI serves as a technology-based business incubator providing a variety of incubation services, including a demonstration and validation environment to improve the way security technologies are being developed to comply with NNSA requirements, as well as workforce development resources to help new businesses acquire and develop the technical expertise needed to cope with NNSA projects. This document outlines the goals and strategies required to assure continuity and sustainability for this project.

¹ Boyd, K. (2006). *Developing a Business Incubation Program: Insights and Advice for Communities*. National Business Incubation Association, Athens, Ohio.

² National Business Incubator Association (2007). *Measuring Your Business Incubators Economic Impact: A Toolkit*. Retrieved December 10, 2007 from the website <http://www.nbia.org/impact/index.php>

2.0 CURRENT STATUS

2.1 STAFFING

The National Security Technology Incubator (NSTI) leadership is comprised of experienced and qualified individuals, from Arrowhead Center and New Mexico State University, whose expertise is critical to the successful integration of the project's main functional areas (business incubation, technology demonstration and validation, and workforce development). The organizational structure is as follows:

A principal investigator is responsible for the administrative functions of the whole project. The PI also oversees the work of the project manager and technology innovator who are in charge of the management of critical functions, including delegating tasks, coordinating team members, and measuring progress and team performance.

Although all three of these positions play a key role in the NSTI initiative, currently the focus of the incubator is to create a stable client base. Initial efforts have been made to identify and integrate applicable clients; three clients have been integrated into the incubator. NSTI's technology innovation director currently is matching these clients with services and potential business partners while developing leads for integrating new clients into the incubator on an ongoing basis.

A team of skilled graduate students with backgrounds in industrial engineering, business, marketing, economics, and finance currently are carrying out support activities for the three initial incubator clients currently working with NSTI, all of whom operate in the national defense sector.

2.2 CLIENTS

NSTI currently is working with three clients whose business is based on technologies transferred from the DOE, or with services applicable to the DOE NNSA missions. These clients are working with NSTI staff to identify potential leads, refocus their existing business models, and seek additional opportunities for licensing of DOE technologies.

3.0 GOALS AND STRATEGIES

The goals that serve as the foundation for the specific objectives of the NSTI staff to ensure the long-term success of the incubator are as follows:

- To develop long-term partners in venture capital and government agencies for continued funding
- To better develop the mission focus of NSTI to meet NNSA goals
- To set up permanent facilities and infrastructure required for long-term incubation needs
- To have seven incubator companies and two mentor companies to provide long-term sustainability via additional grants and fees

To achieve these goals, NSTI will employ the following strategies.

1. Subject-matter experts in venture capital and the DOE mission have been hired to define the services that will be offered while helping to identify, recruit, and select a promising client base. Once clients have been identified, graduate assistants will

work with the clients to assure both short-term and long-term business goals are achieved in concert with DOE needs. Once these client companies have achieved long-term stability, NSTI will negotiate a fee base for ongoing services.

2. NSTI staff will continue the incubation program to help new clients achieve a long-term and successful operation of their businesses. The program will provide clients with marketing and training assistance, administrative, logistics, business support, financial/capital acquisition assistance, licensing and intellectual property services, and of course, technology demonstration, validation, and workforce development. Such services will be provided by graduate assistants specializing in management, marketing, economics, finance, and engineering. The long-term objective would be for these students to become full-time employees of these companies when possible.
3. Working with existing university demonstration and validation (Demval) resources, NSTI will provide physical testing facilities and demonstration environments. Additional external Demval resources, including operations research systems analysts and large-scale physical testing facilities at White Sands Missile Range will supplement the existing university resources when applicable. Under this scenario, a graduate assistant with background in engineering will be working in Demval when needed. Once these services are fully integrated, a fee-based system will be introduced to supplement grant-based sources of income.
4. NSTI will work with existing DOE workforce development groups located at Sandia and Los Alamos National Laboratories to identify current and close future workforce requirements. Fulfilling identified workforce requirements will be achieved by providing university and external training for business-management positions as part of the ongoing incubation process.
5. Once this is done, NSTI staff and its associated partners will plan the physical configuration, size, infrastructure, and required capacity of a dedicated business incubator facility. Before a permanent site for NSTI becomes available, provisional space will be needed to house the client base³. In the end, it is important to emphasize that a permanent process of improvement will be required. In order to accommodate new clients as they come along. Once the final location of the incubator is determined, graduate assistants with a concentration in computer science and computer systems can help set up and manage the telecommunications infrastructure.

4.0 LONG-TERM FINANCIAL SOLVENCY GOALS

Because 21% of business incubators are sponsored by government entities, the NSTI project will seek permanent adoption by a Federal agency, DOE, DHS, or DoD. While supporting this initiative, the government can help create a larger tax base and additional revenue in southern New Mexico.

NSTI sustainability also will depend on charging graduated fees to incubator clients for services rendered. As a point of reference, 84% of incubator graduates stay in their communities and pay ongoing fees to the original incubator. NBIA member incubators

³ NSTI clients will be housed in the Genesis Center, a 30,000 square feet multi-tenant building, until construction of the Research Park is complete.

have reported that 87% of all firms that have graduated from their incubators are still in business and paying fees for continuing incubation services⁴.

5.0 CONCLUSIONS

Even though local business based sources of revenue needed to keep the NSTI functional cannot be fully committed at this time, it can be inferred that NSTI's close relationship with the DOE, NMSU, and Arrowhead Center, teamed with the business friendly environment of Las Cruces, will allow NSTI to find the right mix of clients for the successful operation and long-term financial viability of the incubator.

NMSU holds more than \$150 million in total research contracts⁵ that allow the University to foster and nurture successful long-term partnerships with the private sector. Matched with Arrowhead Center's proven experience and promising client base⁶, it is clear the basic infrastructure for a successful incubator is in place.

This readily available infrastructure offered by NMSU and Arrowhead Center will help attract and retain clients by allowing them access to specialized infrastructure, equipment, and facilities, as well as access to business assistance programs such as small business development centers, angel funding networks, technology councils, etc.⁷

Also in trying to find qualified suppliers, NSTI clientele could benefit from the collaboration with federal agencies specializing in research and development, military installations, national laboratories (Sandia and Los Alamos, which receive a vast amount of federal funding to carry out substantial national security research within New Mexico), and with private companies operating in New Mexico.

NSTI tenants can use the support offered by NMSU entities and strategic partners while collaborating with NMSU faculty in the six already established research clusters and take advantage of the availability of domestic and international students as graduate assistants or part-time workers (which implies a qualified and educated workforce). In other words, this relationship implies a mutual exchange of ideas, experience, and knowledge with a solid definable dollar value.

NSTI sustainability will be based on the willingness of seven incubators clients and two mentor companies that recognize the value of the incubator to pay graduated fees as they grow. NSTI will also be sustained by access to revenues in the form of tenants rent, as well as state and federal funds.

Las Cruces, New Mexico, represents a unique gateway for new technology-oriented businesses because the city houses federal and private research-intensive organizations, which specialize on different fields of national security from aerospace to biotechnology to renewable energy. Also, the proximity of Las Cruces to Ciudad Juárez, Chihuahua, offers potential businesses a large pool of experienced, qualified, skilled, and low-cost manufacturing workers and suppliers; not to mention all the prospective investors willing to expand their business operations.

⁴ Source: Business Incubation Works

⁵ http://arrowheadcenter.nmsu.edu/media_kit/docs/ARP_Brochure.pdf

⁶ NSTI already has a full time client (Abalone Studios)

⁷ http://arrowheadcenter.nmsu.edu/media_kit/docs/ARP_Brochure.pdf

In conclusion, government and private sector financial support for business incubation initiatives has been proven to encourage economic and social prosperity because such programs entail large investments in communities. As a reference, consider the following facts:

- **Research has shown that for every \$1 of estimated public operating subsidy provided the incubator, clients and graduates of NBIA member incubators generate approximately \$30 in local tax revenue alone.**
- **NBIA members have reported that 84 percent of incubator graduates stay in their communities⁸.**

Therefore, the continuation of the NSTI project will help shape New Mexico's future by creating value-added jobs and developing the region's entrepreneurial culture, which will translate into a continuous cycle of cooperation and leadership that will eventually lead to economic and social progress for the region and the state.

⁸ Source: Business Incubation Works