

New Mexico State University

# ARROWHEAD CENTER

LEADING ECONOMIC DEVELOPMENT FOR NEW MEXICO STATE UNIVERSITY



## National Security Technology Incubator Business Plan



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

DOE/NA/28084-112

Submitted  
by  
Arrowhead Center  
New Mexico State University

December 31, 2007



Live, Learn and Thrive

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## **LIST OF ACRONYMS**

ABTI	Arrowhead Business and Technology Incubator
DOE	Department of Energy
GDP	Gross Domestic Product
LANL	Los Alamos National Laboratory
MVEDA	Mesilla Valley Economic Development Alliance
NBIA	National Business Incubation Association
NMEDD	New Mexico Economic Development Department
NMSU	New Mexico State University
NM Tech	New Mexico Institute of Mining and Technology
NNSA	National Nuclear Security Administration
NSPP	National Security Preparedness Project
NSTI	National Security Technology Incubator
PSL	Physical Science Laboratory
SBA	Small Business Administration
SBDC	Small Business Development Center
SBU	Strategic Business Unit
SNL	Sandia National Laboratories
TANS	Technology Acceleration for National Security
UNM	University of New Mexico
VPED	Vice President for Economic Development
WSMR	White Sands Missile Range

## EXECUTIVE SUMMARY

The global community faces ever increasing and emerging threats from hostile groups determined to rule by terror. According to the National Nuclear Security Administration (NNSA) Strategic Plan, the United States must be able to quickly respond and adapt to unanticipated situations as they relate to the protection of our homeland and national security. Technology plays a key role in a strong national security position. Private businesses, along with national laboratories, academia, defense, and homeland security organizations, provide this technology. Fostering innovative ideas, translated into relevant technologies in response to the needs of NNSA, is the purpose of the National Security Technology Incubation Program (NSTI) within the National Security Preparedness Project (NSPP), whose mission is to promote national security technologies through business incubation, technology demonstration and validation, and workforce development. The NSPP is funded by a Department of Energy (DOE)/National Nuclear Security Administration (NNSA) three-year grant which was awarded on October 1, 2007.

The vision of the NSTI is to be a successful incubator of technologies and private enterprise that assist the NNSA in meeting new challenges in national safety, security, and protection of the homeland. By nurturing the business and technology needs of its clients, the NSTI will contribute to the success of businesses in the rapidly growing entrepreneurial environment in southern New Mexico. By matching NNSA technology requirements with technologies of small businesses, the NSTI will assist small businesses in finding customers and the NNSA with finding technologies to make the nation more secure.

The NSTI is operated and managed by the Arrowhead Center, responsible for leading the economic development mission of New Mexico State University (NMSU). Arrowhead Center is an organizational unit of NMSU and reports directly to the NMSU Vice President for Economic Development. Arrowhead Center works closely with its corporate sister company, Arrowhead Center, Inc., a non-profit corporation owned by NMSU and established under the University Research Park and Economic Development Act, which allows for the creation of non-profit businesses to facilitate economic and business development by universities in New Mexico. Arrowhead Center provides wide-ranging services for NMSU, delivering services that contribute to the creation and expansion of small businesses in New Mexico, resulting in greater wealth and expanded employment opportunities.

To realize the NSTI, Arrowhead Center must meet several performance objectives related to planning, development, execution, evaluation, and sustainability. The NSTI business plan, contained in this document, is critical to the success of NSTI in its mission of incubating businesses with security technology products and services. This plan, which will be updated annually, describes critical aspects of the NSTI, including the vision and mission, organizational structure and staffing, services, evaluation criteria, client processes, budget, and schedule.

## 1.0 INTRODUCTION

This document contains a business 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 business plan is due by December 31, 2007, as performance measure 1.1.2 (Grant No. DE-FG52-07NA28084, Arrowhead Center proposal, Page 15).

This business plan describes key features of the NSTI, including the vision and mission, organizational structure and staffing, services, evaluation criteria, marketing strategies, client processes, a budget, incubator evaluation criteria, and a development schedule.

The Arrowhead Center of New Mexico State University (NMSU) will be 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 business plan, which will be updated annually, is critical to the success of NSTI in its mission of incubating businesses with security technology products and services.

In developing this business plan, Arrowhead Center staff reviewed literature on business incubators to adopt a development approach tailored to the NSTI mission and resources. Arrowhead Center's business research experience also provided insight into the incubation process for early-stage businesses. Arrowhead Center has delivered more than 250 business research products (such as marketing analyses, feasibility studies, and business plans) in the last three years.

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 companies."<sup>1</sup> 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 incubators.<sup>2</sup> 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 will be recruited for the NSTI program. The Arrowhead Center and its strategic partners will 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 will be provided.

## 2.0 PROGRAM DESCRIPTION

The NSTI is a business incubation program under development by the Arrowhead Center of NMSU. The focus of the program is on small businesses (start-up and existing) that have technologies of potential interest to the DOE/NNSA. Development of the program began in October 2007 with the award of a three-year grant from the DOE/NNSA. Salaries of incubator staff (professionals and students) are the largest component of the NSTI budget. Thus far, a strategic plan for the NSTI has been written and key personnel positions are in the process of being filled. Also, needs of potential incubator companies have been assessed, and an evaluation process for incubator performance has been defined. This business plan is another critical step in the progress of the NSTI.

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

<sup>2</sup> 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>

The NSTI is operated and managed by the Arrowhead Center, responsible for leading the economic development mission of NMSU. Arrowhead Center is an organizational unit of NMSU and reports directly to the NMSU Vice President for Economic Development. Arrowhead Center works closely with its corporate sister company, Arrowhead Center, Inc., a non-profit corporation owned by NMSU and established under the University Research Park and Economic Development Act, which allows for the creation of non-profit businesses to facilitate economic and business development by universities in New Mexico. Arrowhead Center provides wide-ranging services for NMSU, delivering services that contribute to the creation and expansion of small businesses in New Mexico, resulting in greater wealth and expanded employment opportunities. Arrowhead Center has been in existence since 2004, with rapid growth in services provided to faculty, staff, students, entrepreneurs, small businesses, inventors, and venture capitalists. Highlights of Arrowhead Center's accomplishments over the past three years include the completion of more than 250 business research projects including market feasibility studies and business plans; spin-off of companies from NMSU activities; licensure of intellectual property; recruitment of a master developer for the Arrowhead Research Park (Arrowhead Park); and growth of the funding base, including large grants from the Small Business Administration (SBA) and DOE.

Business incubation is a growing function of the Arrowhead Center, which recently has received funding from both the SBA and NMSU to develop business incubation capabilities. Under an SBA grant, the Arrowhead Center established the Arrowhead Business and Technology Incubator (ABTI), a start-up virtual incubation program in which limited services are offered to clients without the benefit of an incubator building and shared administrative resources. The ABTI is open to small businesses in New Mexico regardless of technology focus.

The NSTI is a major program under the ABTI, and will build upon the expertise and services of the ABTI. The NSTI will offer standard business incubation services and additionally will provide services tailored to meet the needs of companies with security technologies. These specialized services include providing contacts with potential customers of security technologies, technology development assistance, access to technology demonstration funding, and assistance in the identification and pursuit of government and private funding.

Arrowhead Center personnel will staff the NSTI; the lead of the NSTI serves as the director of all incubation activities for the Arrowhead Center. Arrowhead Center is in the process of hiring a Technology Entrepreneur and an Incubation Administrative Assistant to support the NSTI. Graduate students will assist with a variety of NSTI projects, as is the case with many Arrowhead Center endeavors.

### 3.0 VISION, MISSION, GOALS, AND OBJECTIVES

The vision of the NSTI program is to be a successful incubator of technologies and private enterprise that assist the NNSA in meeting new challenges in national safety and security.

The mission of the NSTI program is to identify, incubate, and accelerate technologies with national security applications at various stages of development by providing business and technology assistance to new or existing companies.

Arrowhead Center has identified four strategic goals toward achieving the vision and mission of the NSTI. These goals, shown in Figure 1 along with supporting objectives, were established to respond to the major challenges of developing a successful incubator program. These challenges are finding businesses with relevant security technologies that are also in need of incubation; designing and developing the best processes and services; providing business incubation services on a limited budget; and securing an affordable physical location to provide common resources and networking opportunities to incubator clients.

**Figure 1. Goals and Objectives**

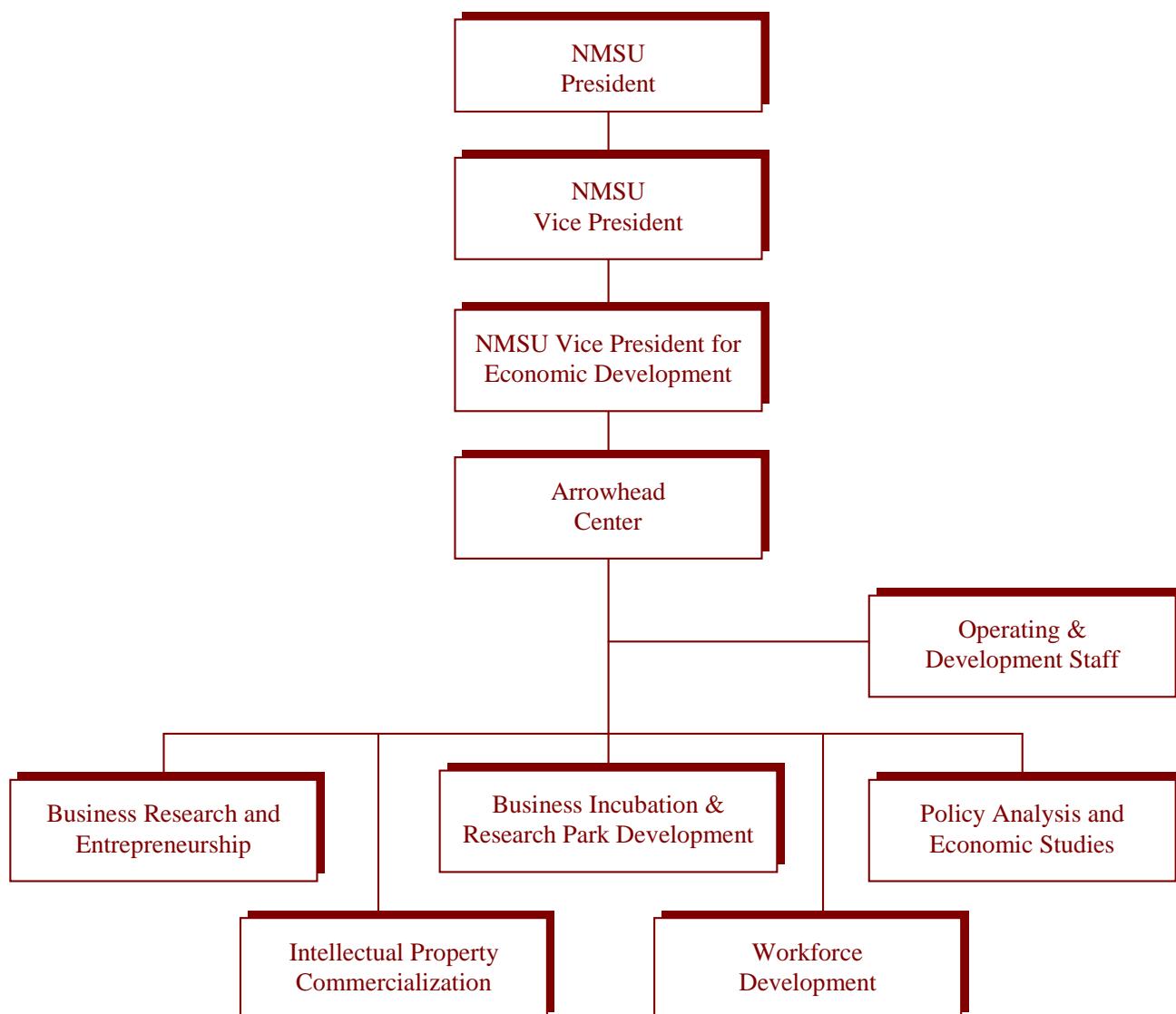
<b>GOAL 1:</b>	<b>Identify and recruit small businesses with technology applications for national security.</b>
Objective 1:	Team with key stakeholders to identify small businesses.
Objective 2:	Recruit identified businesses through a well-designed marketing plan.
<b>GOAL 2:</b>	<b>Design and implement a national security incubator program that provides incubator services and physical space for the targeted small businesses.</b>
Objective 1:	Establish policies and procedures for the incubator program.
Objective 2:	Determine the physical location of the business incubator.
Objective 3:	Accept incubator clients and begin providing services.
<b>GOAL 3:</b>	<b>Provide business assistance and technical leadership to NSTI program clients to assist in bringing their products to market.</b>
Objective 1:	Assess the existing service provider network, identify gaps, and leverage resources to provide the identified business assistance.
Objective 2:	Create a mentor network for incubator clients.
<b>GOAL 4:</b>	<b>Construct a new multi-tenant facility with dedicated physical space for small businesses with technology applications for national security.</b>
Objective 1:	Submit a proposal to Economic Development Administration (EDA) to secure funding to construct an incubator facility in Arrowhead Park.
Objective 2:	Identify current physical space in the community for clients in the interim.
Objective 3:	Commence construction of incubator facility.

Goal 4, the construction of a facility in the Arrowhead Park that will accommodate NSTI client companies, is perhaps the most difficult of the goals. New Mexico State University and the Arrowhead Center must seek funding from state, federal, and private sources to construct a new facility. New Mexico State University owns the land in the Arrowhead Park, but does not have the budget to pay for construction of an incubator building. The current plan is to submit a proposal to the EDA for construction of the proposed facility in Arrowhead Park. The projected completion date of such a facility is highly speculative until construction funding is obtained. Until a dedicated incubator facility exists, NSTI will be housed in the Genesis Center (or an equivalent facility).

#### 4.0 ORGANIZATIONAL STRUCTURE AND STAFFING

The NSTI and the NSPP are managed by the Arrowhead Center, the economic development lead for NMSU. The organizational structure of the Arrowhead Center is shown in Figure 2. The Arrowhead Center reports directly to the NMSU Vice President for Economic Development, and is organized into five strategic business units: 1) Business Research and Entrepreneurship; 2) Intellectual Property Commercialization; 3) Business Incubation and Research Park Development; 4) Policy Analysis and Economic Studies; and 5) Workforce Development. These business units are highly inter-related in terms of customers and services, and all contribute to the economic development mission of NMSU.

**Figure 2. Arrowhead Center Organization**



**Figure 3. National Security Preparedness Project Organization**

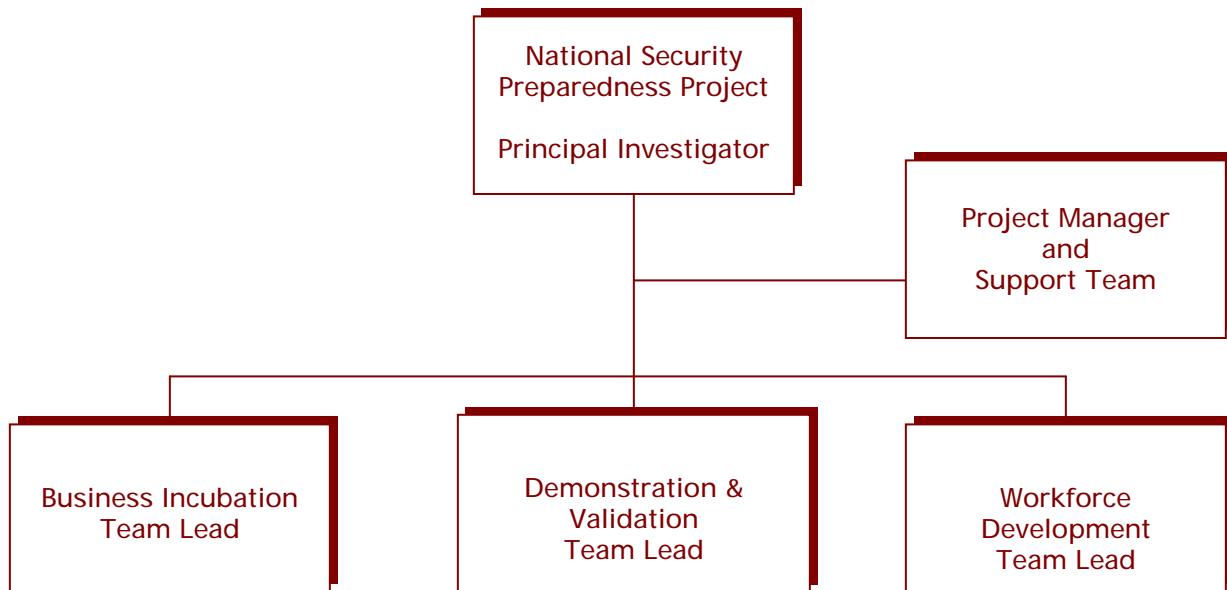


Figure 3 shows the organization of the NSPP. NMSU personnel from the Arrowhead Center and the Physical Science Laboratory (PSL), a research and development contract organization, staff the NSPP. NSPP is lead by a Principal Investigator and managed by a Project Manager from the Arrowhead Center. NSPP activities are categorized into three functional areas of performance: business incubation, workforce development, and technology demonstration and validation. Arrowhead Center's Business Incubation and Workforce Development Strategic Business Units (SBUs) supply the leadership for two of the NSPP teams. PSL leads the Technology Demonstration and Validation Team. The team leaders report to the Principal Investigator, who has overall responsibility for grant performance and commitment of funds. The Project Manager is responsible for workload planning and management and report submission. The team leaders are responsible for team and grant performance in their functional areas. The leadership team (Principal Investigator, Project Manager, and Team Leads) set the direction for the NSPP, establish specific objectives and measurable results, identify team members, provide the resources to success, measure results, and take corrective actions to continuously improve processes and systems. The team leaders implement tasks as directed or delegated by the Principal Investigator and Project Manager.

**Figure 4. National Security Technology Incubator Organization**

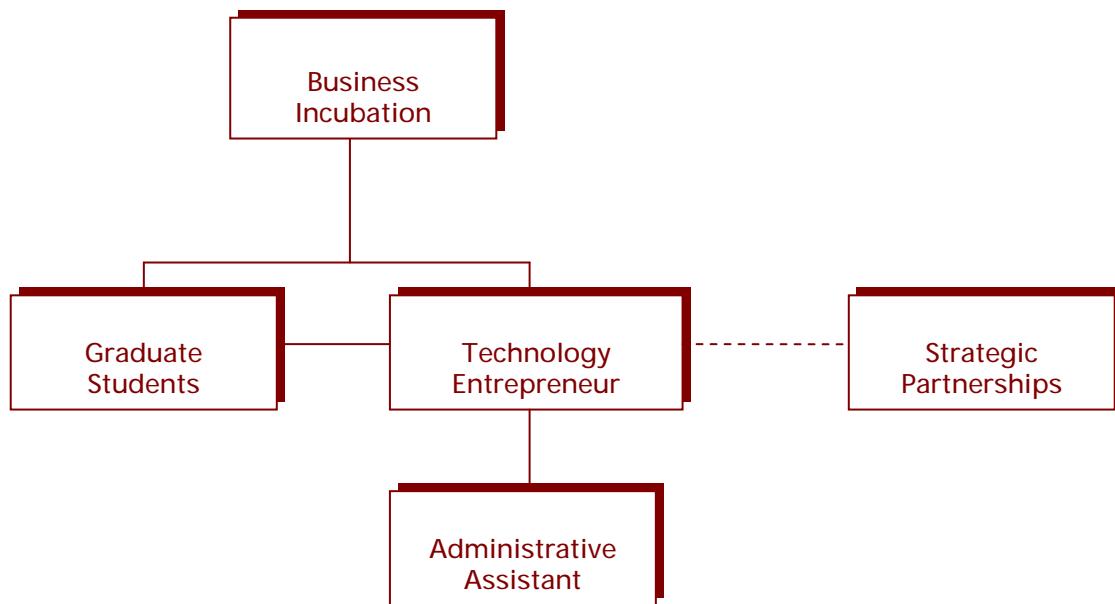


Figure 4 displays the organization chart for the NSTI. The Business Incubation Team Leader is responsible for all NSTI activities. The Technology Entrepreneur, a new position, reports directly to the Business Incubation Team Leader. Assisting the Technology Entrepreneur is the Business Incubation Administrative Assistant, also a new position within the Arrowhead Center. Graduate students support both the team leader and the Technology Entrepreneur. Strategic partners, such as the local Small Business Development Center (SBDC), work with the Technology Entrepreneur to supply services to NSTI clients. The main function and purpose for the NSTI program staff is to help guide policy development for the NSTI program and to identify and facilitate appropriate services for clients in each step of their company's development.

Two full time positions, a Technology Entrepreneur and an Administrative Assistant, one 25% time position (Business Incubation and Research Park Development Lead), and 2.5 Full Time Equivalent graduate students will conduct daily operations of the NSTI program. Key professional qualifications for the Technology Entrepreneur position include strong communication and organization skills, hands-on experience working with the community and businesses, and strong interpersonal skills. The Principal Investigator and the Project Manager of the NSPP also will devote a portion of their time to the oversight and management of the NSTI.

In addition to the above-referenced positions, the following Arrowhead Center positions also will assist with the NSTI program as needed: the NMSU Vice President for Economic Development and President of Arrowhead Center; the Entrepreneurship Lead, Arrowhead Center; the Workforce Development Lead, Arrowhead Center and NSPP; and the Business Research Project Manager, Arrowhead Center.

## 6.0 SERVICES

The following services have been identified and recommended by the NBIA for developing any incubator program and answering the needs of the small businesses:

1. Assistance with business plans, strategic planning, marketing, product commercialization, and financing;
2. Assistance with management plans and practices;
3. Entrepreneurship workshops;
4. Business development seminars;
5. Consultation and referral regarding intellectual property issues;
6. Specialized business assistance (legal, financial, accounting) using an established resource network;
7. Business address, mail service, Internet connection;
8. Assistance with networking and telecommunications;
9. Facility administration and front desk reception services;
10. Access to shared conference rooms; and
11. Use of copier and fax (usage charges only).

The NSTI program will scope these basic services based upon the level of available resources, funding, and availability of incubator space. In addition to these basic services, the NSTI program will provide services tailored to small security technology businesses, including facilitated access to potential security technology customers (such as NNSA), part-time administrative support, access to technology demonstration funding, and engineering and technology development assistance.

The 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 companies."<sup>3</sup> Ideally, incubation programs provide their services to client companies through an incubator facility. Funding is not available at the current time to build or rent an entire facility for the purpose of business incubation. Therefore, Arrowhead Center intends to make space available for NSTI clients in the Genesis Center, a complement of three buildings located on NMSU land on its Las Cruces campus. Although a building is not essential to provide services, it brings many benefits to the incubation program including the creation of the entrepreneurial community and networking with other client companies in the incubator facility.

A critical role in the delivery of the NSTI incubator services is fulfilled by the Technology Entrepreneur, who will serve as the chief advisor to all client companies and will hold regular meetings with each client to address specific needs. The Technology Entrepreneur will identify appropriate resources for the client and facilitate referrals to internal and external service providers. An administrative assistant will provide secretarial support to the incubator companies.

The NSTI will take advantage of an on-going series of seminars and workshops on topics relevant to small businesses sponsored by the Entrepreneurship and Small Business Program, funded by a grant from the SBA. In addition to these seminars and workshops, the NSTI will offer additional networking opportunities through other sponsored special events. The NSTI also will support and promote educational and networking events hosted by other local, state, and national organizations and encourage participation in technology trade shows and exhibitions.

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<sup>3</sup> Boyd, K. (2006). *Developing a business incubation program: Insights and advice for communities*. National Business Incubation Association, Athens, Ohio.

The NSTI will offer client companies training in proposal preparation for federal grants and contracts and assistance in acquiring the DUNS and CCR numbers their companies need for doing business with the federal government.

The NSTI will develop a network of professionals willing to offer services to its clients at a discounted fee. In addition, NSTI will rely upon its strategic partners, such as the SBDC located in Las Cruces for referrals to professionals, such as attorneys, who have a track record of assisting start-up and small businesses.

Marketing assistance will be offered to NSTI clients to promote their business, products, and services. NSTI staff will assist in the development of press releases and other promotional materials for client companies. Assistance also will be provided in reviewing client Web site content and other client marketing materials upon request. Referrals to partner organizations for creation and development of Web sites, brochures, and other marketing materials will be provided. All client companies will be listed on the Arrowhead Center Web site with a brief company description and a Web site link.

## 7.0 BUSINESS AND TECHNOLOGY DEVELOPMENT ENVIRONMENT

New Mexico is a prime location for a national security technology incubator program with a large presence of people, facilities, businesses, and institutions supporting the defense and protection of the United States. New Mexico is one of the 20 fastest growing states<sup>4</sup> and is the birthplace of rocket science, home to White Sands Missile Range (WSMR), Los Alamos National Laboratory (LANL), Sandia National Laboratories (SNL), and the three research intensive universities of NMSU, New Mexico Institute of Mining and Technology (NM Tech), and the University of New Mexico (UNM).

New Mexico is the number two state in the nation for federal research investment dollars per capita. It has the second highest ratio in the nation of federal research and development dollars to gross state product and the fifth highest rating of private-sector research and development as a percent of gross state product<sup>5</sup>.

Part of the planning for the NSTI program involves developing a security technology focus that supports the NNSA while leveraging strengths of research and development expertise and capabilities at NMSU and in New Mexico. NMSU is among only four percent of colleges and universities classified by the Carnegie Foundation for the Advancement of Teaching as a Doctoral/Research University-Extensive.<sup>6</sup> NMSU ranks in the top 110 institutions in the country in terms of federal research expenditures. NMSU has created five research clusters in its areas of strength – aerospace and space, the border, biosciences, information sciences, and natural resources. By incorporating the research clusters into the NSTI focus, Arrowhead Center can identify opportunities for applicable national security technologies that build on institutional strengths and respond to national security needs.

In addition to a favorable regional environment for technology firms, the forecast for the national security technology sector looks very promising over the next five- to ten-year time period. Due to the increased amount of outsourcing by many government security agencies, the market for private security technology firms should expand at an increasingly steady rate. Many analysts expect the entire technology sector related to national security and defense to continue to expand throughout the latter part of the next decade. Unlike other industrial and technology sectors, this sector is tied almost exclusively to federal budget cycles and not to business cycles. Many manufacturing and technology companies in other sectors potentially could fall prey to an upcoming recession. However, regardless of how the economy is

<sup>4</sup> [http://money.cnn.com/2006/12/22/real\\_estate/fastest\\_growing\\_states/index.htm](http://money.cnn.com/2006/12/22/real_estate/fastest_growing_states/index.htm)

<sup>5</sup> <http://www.agiweb.org/gap/cvd/cvd2007/State-factsheets/CVD07NewMexico.pdf>

<sup>6</sup> <http://prospective.nmsu.edu/general/outstanding-value.html>

performing, current budget projections in the areas of national security and defense will remain relatively the same.

The Congressional Budget office currently expects discretionary spending to increase by more than 37% over the next ten years.<sup>7</sup> Although this is an increase in absolute spending, it is actually a decrease of more than 17% as a percentage of GDP. However, during the same time period, discretionary outlays relating to defense are expected to increase by more than 200% in absolute terms and by more than 84% as a percentage of GDP. National security technology development is included in these discretionary outlays and will continue to see an increase in dollars spent and market necessity.

Small businesses, such as the clients of the NSTI program, will do extremely well in this type of market environment. Congress has added further growth potential to this market with initiatives aimed at making smaller, lesser known, commercial technologies more readily available to large government consumers of such technology. They have been particularly adamant about informational security technologies, anticipating a potential increase in the need for advanced informational security throughout future military operations. If these Congressional initiatives are funded, small start-up technology companies could have the potential to outperform their larger, more conventional counterparts in the national marketplace.

## 8.0 MARKETING AND PUBLIC RELATIONS

Marketing and public relations efforts are necessary for any business; the NSTI program is no different. An effective and well-designed marketing plan will bring visibility to the NSTI program. The marketing plan is designed to identify and target opportunities for attracting businesses with national security technology applications. The marketing of the NSTI program will be an on-going process for the duration of this funding period and beyond.

An initial step in the marketing of the NSTI program will be an assessment of the technology needs of NNSA. Once these technologies are identified, companies that meet these needs will be identified. At that point, these companies will be targeted and directly contacted to determine their interest and the feasibility of locating their business in the NSTI program.

The marketing of the NSTI program initially will focus on the southern New Mexico region. As NSTI clients are secured and programs are put into place, the marketing focus for the NSTI program will broaden to include the rest of New Mexico, followed by the western United States. Lastly, the NSTI program will be marketed nationally.

For the NSTI program to be successful it is imperative that businesses with national security technology applications physically locate within the NSTI. In an effort to attract these businesses, the NSTI program will make use of some or all of the following strategies:

- Improve the current Web site to ensure a more comprehensive, user-friendly approach;
- Network with and update strategic partners on the services available in the NSTI program;
- Provide information on the NSTI program to economic development organizations, high technology organizations, national laboratories, and other organizations involved in high technology;
- Become an active member of professional associations such as the NBIA, Association of University Research Parks, and Association of University Technology Managers;
- Advertise the NSTI program on the Web sites of professional incubator associations;
- Network with other business incubators;
- Participate in workshops and seminars on marketing a business incubator;

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<sup>7</sup> Congressional Budget Office – Baseline Budget Projections 2007.

- Develop and disseminate promotional materials to targeted sources;
- Host and attend special events targeted toward businesses seeking to locate in a business incubator;
- Develop a periodic newsletter about the benefits and progress of the NSTI program;
- Advertise through various media – newspapers, radio stations, television stations, business periodicals;
- Conduct a grand opening event; and
- Present educational training programs and seminars.

At an appropriate stage of NSTI program growth, the NSTI program will apply to become a part of a national security incubator network, the Technology Acceleration for National Security (TANS) network that includes seven founding incubators representing the states of Alabama, Colorado, Georgia, Maryland, New York, Texas, and Virginia.

#### 9.0 CLIENT PROCESS

Figure 5 shows the steps in the process by which NSTI clients are accepted and graduated. Client applicants will be carefully screened and selected using a number of factors. One of those factors will be a synergy with NMSU. To be accepted into the NSTI program, applicants will first submit an online request for information. An Arrowhead Center team member will respond to the request within 48 working hours, providing initial information about the NSTI program, status of development, and present capabilities.

If the candidate seems appropriate for the NSTI program, additional information is forwarded to them either electronically or by posted mail. If the client is qualified and remains interested in joining the program, they will submit an application for entry along with a business plan or description of their business. In some cases, an applicant may already be operating and selling a product or service but does not have a business plan. In this case, the Arrowhead Center will work with the company to develop a business plan prior to review of their application.

The Arrowhead Center applicant review team will evaluate all business plans submitted, and based on the following criteria, will determine which applicants to accept:

- Market potential;
- Business potential;
- Management team;
- Synergy with NMSU; and
- Economic impact on the community in the form of job creation potential and contribution to the growth of the economic base of southern New Mexico.

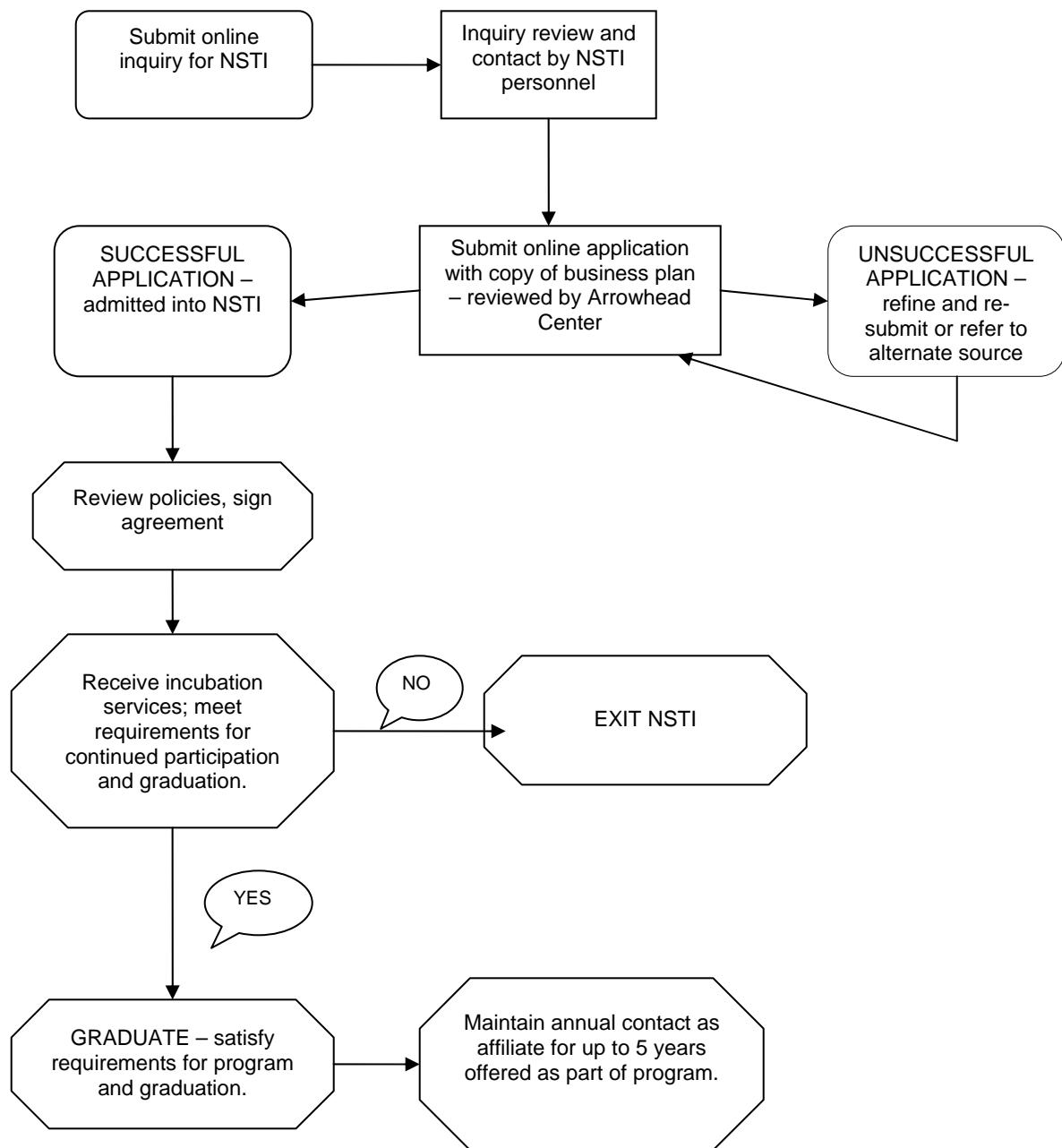
If an applicant appears to be in direct competition with another NSTI program client, the applicant would meet with NSTI management to determine their eligibility.

Once an applicant is admitted into the program, they will meet with the Technology Entrepreneur to assess their needs, review policies and procedures of the incubator, and sign the required agreements for entry. The Technology Business Entrepreneur will work with the client to provide business and technology assistance until they meet their established milestones. The NSTI program will develop a clear policy for graduating companies into the local economy. The length of time a business may stay in the NSTI program will be determined on a case-by-case basis. Each company will be treated individually with periodic progress reviews.

Once all the milestones have been met, the client will graduate from the program into the local economy. The current plan is to offer an affiliate program for up to five years to graduates of

the NSTI program. Affiliate businesses also will serve as mentor companies to new NSTI program clients.

**Figure 5. Client Process**



#### 10.0 BUDGET

According to NBIA and other sources, incubators are never sustainable initially, but can bring economic benefit and returns on investment over time. As is typical for most incubators, funding for the incubator program should come from multiple revenue sources: client fees, sponsorships, program grants, operating grants/subsidies, and small equity positions taken in

the start-ups. Funding at this time for the NSTI comes solely from the NSPP, funded by DOE. The NTSI funding for the three-year period of the grant is shown in Figure 6.

Arrowhead Center also has incubation funding from the SBA and NMSU that provides some salaries for general business incubation services. However, these funds are not considered in the budget projections for NSTI.

A business model will be developed using all potential sources of funding. A NNSP sustainability plan is due to DOE/NNSA by September 30, 2008. This plan will contain a five-year funding projection using all anticipated revenue sources.

**Figure 6. Budget, FY 2008 - FY 2010**

COST CATEGORY	FY 2008	FY 2009	FY 2010	Total
<b>TOTAL</b>	\$321,525	\$330,152	\$339,038	\$990,715

#### 11.0 INCUBATOR EVALUATION CRITERIA

The evaluation process for the NSTI program will include assessment of the following components:

- Success of incubator businesses;
- Sustainability of the NTSI;
- Services and facilities used by clients; and
- Management processes.

The steps required to evaluate and assess the NSTI program will be adapted based on proven models already established by the *infoDev* Incubator Support Center and will include the following:<sup>8</sup>

- a) Develop goals, performance objectives, and performance measures;
- b) Define performance objectives that relate to benefits expected by resource network partners;
- c) Define performance objectives that relate to the needs of the incubator;
- d) Measure performance using a clear data collection method;
- e) Prepare annual reports documenting results;
- f) Provide feedback to the management of the NSTI;
- g) Seek partner/stakeholder input to identify weaknesses and discuss progress; and
- h) Develop and implement an improvement plan for the next evaluation period.

<sup>8</sup> Incubator performance evaluation, Article 214 retrieved from <http://www.idisc.net/en/Article.214.html>

The implementation of an incubator performance evaluation system is expected to increase NSTI effectiveness. A thorough evaluation of the services provided will suggest ways to improve or expand operations, point out strengths and weaknesses, and help implement corrective procedures to achieve success. The evaluation is part of the NTSTI feedback process.

In evaluating the NSTI programs strengths and weaknesses, the design will include an evaluation survey of incubation services, management practices, the management team, and tenant selection criteria. This survey will rate the services offered on a scale of 0 to 5 accordingly: 0=Not Used or Unknown; 1=Needs Improvement; 2=Average; 3=Good; 4=Very Good; 5=Excellent. The services and practices evaluated will consist of items identified below.

The evaluation survey will be administered to all NSTI clients (those companies currently in the incubation program and those companies that have graduated), resource network partners, and the staff of the NSTI. Results will be documented and shared among all those surveyed.

Business assistance services such as the following will be rated as part of the NSTI evaluation process:

1. Provides coaching on business skills and business model development;
2. Provides assistance in developing business and marketing plans;
3. Provides proposal development support;
4. Facilitates business support services from external providers;
5. Provides workshops on entrepreneurship and business development;
6. Provides market research and product marketing assistance;
7. Provides introductions to potential security technology customers;
8. Provides an opportunity to qualify for technology demonstration funding;
9. Facilitates access to NMSU resources, such as engineering consultation;
10. Provides opportunities for networking with other incubator clients; and
11. Provides introductions to venture capitalists and private funding sources.

In addition, features of the incubator facility will be evaluated, including:

- a) Offices;
- b) Office equipment;
- c) Telecommunications;
- d) Laboratory/prototyping/testing equipment;
- e) Conference and meeting rooms; and
- f) Reception area.

The management practices of the NSTI will be evaluated in terms of its mission and operations, governance and finances, management team, and tenant selection, monitoring, and graduation policies. Several aspects of these management practices that will be evaluated are listed below.

#### Mission and Operations

- a) Has clearly identified mission and program goals;
- b) Has developed a strategic plan with quantifiable objectives to achieve its mission;
- c) Has a business plan to guide and monitor growth;
- d) Maintains effective strategic alliances and collaborations with service area providers; and
- e) Reviews its finances with the Arrowhead Center Board of Directors annually.

#### Governance and Finances

- a) Has financing capable of ensuring continued operations and effectiveness;
- b) Has a board of directors supporting the mission of the NSTI; and
- c) Has an organizational structure that contributes to effective program operations and client services.

### Management

- a) Has management that is informed of industry best practices;
- b) Sets staff salaries at appropriate level to attract and retain experienced employees;
- c) Is adequately staffed to meet the needs of NSTI clients and provides efficient service;
- d) Has written job descriptions for staff and evaluates staff annually through performance reviews; and
- e) Strongly supports professional development of staff.

### Tenant Selection, Monitoring and Graduation Procedures

- a) Has well defined tenant selection criteria and selects only those applicants that meet the criteria;
- b) Regularly collects information on client performance results;
- c) Effectively utilizes effective business management tools in tracking client progress; and
- d) Has a formal benchmark-based graduation policy.

In addition to the evaluation criteria described above, several outcomes will be measured to provide information on the effectiveness of the NSTI. These outcomes include the graduation rate of incubator companies, the growth of client companies after graduation, number of jobs and revenue generated in the region by graduated companies, number of security technologies successfully marketed and employed, and the long-term financial sustainability of the incubator.

## 12.0 SCHEDULE

The projected schedule for NSTI implementation tasks is shown in Figure 7. Planning and information gathering tasks dominate the first few quarters, followed by implementation, delivery, and evaluation activities in the latter quarters.

**Figure 7. Task Schedule by Fiscal Year**

TASKS	FY 2008			
	Q1	Q2	Q3	Q4
Hire personnel	X	X		
Develop plans	X	X	X	
Develop policies and procedures		X	X	
Create application process		X	X	
Develop leases and negotiation guidelines			X	
Recruit clients				X
Screen and qualify clients				X
Expand and maintain resource network			X	
Organize shared administrative services				X
Develop on-site business assistance support				X
Conduct entrepreneurial workshops	X	X	X	X
Evaluate effectiveness of incubator and resource network				X
Assessment of applicability of client technologies				X
Assess sustainability				X
Apply for membership in National Security Incubator Network				

TASKS	FY 2009			
	Q1	Q2	Q3	Q4
Hire personnel				
Develop plans				
Develop policies and procedures				
Create application process				
Develop leases and negotiation guidelines				
Recruit clients	X	X	X	X
Screen and qualify clients	X	X	X	X
Expand and maintain resource network	X	X	X	X
Organize shared administrative services				X
Offer on-site business assistance support				X
Conduct entrepreneurial workshops	X	X	X	X
Evaluate effectiveness of incubator and resource network				X
Assessment of applicability of client technologies	X	X	X	X
Assess sustainability				X
Apply for membership in National Security Incubator Network			X	

TASKS	FY 2010			
	Q1	Q2	Q3	Q4
Hire personnel				
Develop plans				
Develop policies and procedures				
Create application process				
Develop leases and negotiation guidelines				
Recruit clients	X	X	X	X
Screen and qualify clients	X	X	X	X
Expand and maintain resource network	X	X	X	X
Organize shared administrative services				X
Develop on-site business assistance support				X
Conduct entrepreneurial workshops	X	X	X	X
Evaluate effectiveness of incubator and resource network				X
Assessment of applicability of client technologies	X	X	X	X
Assess sustainability				X
Apply for membership in National Security Incubator Network				