

# **Brain Barn Project**

**Draft**

## **PROGRAM PLAN AND PROPOSAL**

**Prepared By:**  
**Bare Open System Institute**

**29 April 2017**

**Version 0.24**

# Brain Barn Grant Proposal

## Revision Log

Date	Author	Rev#	Change	Action
2014/12/10	Flint	.01	Original submission of draft document	Track Changes on
2016/08/18	Flint	.02	Document Development	Track Changes on
2016/04/26	Kole	0.24	Document Development	Track Changes on

# Brain Barn Grant Proposal

1 PREFACE.....	4
2 SUMMARY.....	4
2.1    Cost.....	5
2.2    Benefit.....	5
3 BRAINBARN INTRODUCTION.....	5
3.1    Description:.....	5
3.2    Objectives.....	6
3.3    Potential Partners:.....	6
3.3.1    Private Participants.....	6
3.3.2    State Government.....	6
3.3.3    Federal Government.....	6
3.4    Services Provided.....	7
3.5    Facilities.....	7
4 Introduction to Applicant Agency.....	8
4.1    Organization Propose.....	8
4.2    Locations And Service Areas.....	8
4.3    Who Benefits, How Many Per Year.....	8
4.4    Staff Volunteers – Board Of Directors.....	9
4.5    Collaboration – Partnership.....	10
4.6    Organizational Infrastructure.....	10
4.7    Funding Sources.....	10
5 Discussion of Problem or Need.....	10
6 Methods.....	10
6.1    Overview.....	10
6.2    Target Populations.....	10
6.3    Full Description of Actives.....	11
6.4    Implementation Time-Line.....	11
6.5    Collaboration.....	11
6.6    Staffing.....	12
6.7    Facilities & Equipment.....	12
7 Evaluation Plans.....	12
8 Future and Other Necessary Funding.....	12
Budget.....	12
8.1    Executive Summary.....	12
8.2    Personnel.....	13
8.3    Non personnel.....	13
8.4    Indirect.....	13
8.4.1    Strategy and Implementation Summary.....	13
8.4.2    Competitive Edge.....	13
8.4.3    Marketing Strategy.....	13
8.4.4    Fundraising Strategy.....	14

## 1 PREFACE

This document was originally developed as an exercise in a Grantsmanship course given at Capstone in December of 2014. This revision has been modified to add a few features, BrainBank and BrainCare which we consider vital to the successful operation of the overall BrainBarn concept. For further information about the development and implementation of the BrainBarn concept, please refer to this website:

- o <http://docbox.flint.com:8081/brainbarn>

Finally one syntactic point. While each individual BrainBarn is referred to "stet", the overall project is referred to as the "Brain Barn Project".

## 2 SUMMARY

The Vermont Brain Barns is a non-profit organization dedicated to the creation of intellectual environments that foster Science Technology Engineering Arts and Math (STEAM) initiatives. The participants of the BrainBarns are local school systems, libraries, companies, students, apprentices and individuals in Vermont technology sector that are aware that we need to grow our economic base and workforce viability rapidly, and are seeking to expand their community connections. In each of the proposed ten regional shared "maker" type environments new or existing small business or established companies can with the help of the public-private partnership that the BrainBarn represents create opportunities for internship, marketing, sales, research and development.

The "maker" movement came to Chittenden County Vermont in 2012 and is currently flourishing there as the Generator organization in Burlington City. This is a manifestation of a world-wide movement based upon the work of the Massachusetts Institute of Technology (MIT) scholar, Dr. Neil A. Gershenfeld an American professor at MIT and the director of MIT's Center for Bits and Atoms, a sister lab to the MIT Media Lab, who realized that the next industrial revolution would come from decentralized yet highly connected manufacturing systems. Dr Gershenfeld's original maker facilities generally are facilities equipped with an array of flexible computer controlled tools that cover several different length scales and various materials, with the aim to make "almost anything", this includes technology-enabled products generally perceived as limited to mass production<sup>1</sup>. From this beginning the number of "maker spaces" facilities available for small smart production have bloomed<sup>2</sup>.

The Barre Open Systems Institute (BOSI), The Renyolds Corporation, Generator, SeaLANDData and ?? intend a public-private partnership to establish high technology research and manufacturing facilities in order to enhance the economic well being of the Citizens of Vermont.

---

<sup>1</sup> Gershenfeld, Neil A. (2005). *Fab: the coming revolution on your desktop—from personal computers to personal fabrication*. New York: Basic Books.

<sup>2</sup> Hackerspaces: An economic development wheel in a wheel (<https://gigaom.com/2014/11/30/sacramentos-hacker-lab-calls-atts-gigabit-bluff/>)

## Brain Barn Grant Proposal

### 2.1 Cost

The summary costs for this project are included here:

- \$475,000 for establishing first BrainBarn location in Barre
  - \$150,000 Full time coordinator position (\$75,000/year for 2 years)
  - \$150,000 for promotion and supporting development.
  - \$175,000 for rent and asset purchase

We expect that all of the regional sites to have this level of startup and initial operating costs. The third year will either involve a profit or possibly additional grant funding in some cases.

### 2.2 Benefit

The benefit is all about employment. Through these statewide micro-enterprise facilities employment-oriented organizations shall develop. These partnering efforts will allow for a broader scope of technology enterprise offerings to be created in each BrainBarn. This is the problem that the BrainBarn project intends to address statewide.

## 3 BRAINBARN INTRODUCTION

As we are including the Generator in Burlington the proposal is for the following Vermont Municipalities to gain maker spaces using the Generator model:

Geographic Location	Proposed Space
Barre	Old Labor Hall Basement
Bennington	Main Street Bennington High School
Brattleboro	??
Burlington	Generator
Morrisville - Johnson	??
Newport – Derby Line	Butterfield – Tivoli
Rutland	??
St Albans	??
St Johnsbury	The Foundry
Springfield	??

### 3.1 Description:

- The BrainBarns create and establish a series of “campuses” where educational, research, development, technology and software companies choose to locate.
- These facilities incubate and provide tenant small businesses and companies with benefits such as:
  - Shared resources, e.g. conference room, high speed internet, tech support, administrative services, business advice, banking, infant-elder care and marketing services, etc.
  - Proximity to other tech companies both physically and virtually.
  - Built-in networking of both the people and digital variety
  - Reduced business facilities and infrastructure cost.

## Brain Barn Grant Proposal

- o Support for growing businesses and their recruiting goals via high profile work venues.
- Give entry point to owner's adjacent commercial office facilities with focused marketing opportunities.
- Make Vermont technology companies more visible both within the state and outside the state.

### 3.2 Objectives

The immediate objectives are to:

- Create the first BrainBarn facility, proving the sustainability of the model over the first 2 years.
- Attract 5 or more companies to locate in the first BrainBarn over the same period.
- Identify locations of future facilities throughout the state based on demand and available resources

### 3.3 Potential Partners:

As the nature of this proposal revolves around local economic empowerment, potential and immediate partnerships are listed here with the most local being the first in consideration with State and Federal consideration as later partners.

#### 3.3.1 Private Participants

- Building owners and/or developers.
- Business support service providers and consultants.
- Startup and established software and technology companies.
- 2014 Northeast Kingdom Fund Grants
- Generator, Burlington Vermont
- Reynolds Corporation, Barre Vermont
- Existing facility owners

#### 3.3.2 State Government

- Vermont Department of Economic Development
- Vermont Department of Education
- Vermont Department of Economic Development
- Vermont Agency of Commerce

#### 3.3.3 Federal Government

- Defense Advance Research Projects Agency
- Homeland Security
- Department of Labor
- Department of Education

### 3.4 Services Provided

The Vermont BrainBarn Project and individual BrainBarns will offer the following consulting services:

**Needs Analysis:** Determine what technology gaps exist in decision making process, recommend changes.

**Coaching:** Guide the owner through various scenarios, help them purchase tools and technology, build on technological synergies with client's customers, push owner to test the limits of their technological capabilities and potential.

**Staff Development:** Educational and business consulting, business organization, hardware and software skills development. Business development, tax advice, and other general businesses development services.

**Banking and Financial Services:** Involves the creation and deployment of the Vermont Contractors Credit Union (VCCU), a specialized financial institution that is critical to the development of the BrainBarn project. While details of the VCCU are beyond the scope of this document, the purpose of this financial institution is to advocate for the individuals and groups involved with BrainBarns.<sup>3</sup>

**Infant-Elder Care:** Child and elder care has a major impact on the development of the Vermont workforce. The BrainBarn shall contain facilities and personnel to allow for proper care, supervision and support for elder and infant care.

**Office Space Procurement - Renovation:** Assist in placement of participating companies within a regional BrainBarn and match for projected growth needs.

**Sales Support:** Provide sales support staff on the areas of sales, marketing, and lead generation for new business opportunity.

### 3.5 Facilities

The BrainBarns while differing in actual size and configuration will have as common characteristics the following:

- Gersenfield-style Fab Lab facilities
- Elder-infant care facilities
- Vermont Contractors Credit Union
- Office and organizational space
- Storage and inventory Space
- Shipping facilities
- Internet and Telecommunications capability

---

<sup>3</sup> Details regarding the Vermont Contractors Credit Union shall be available in a separate publication.

# Brain Barn Grant Proposal

## 4 Introduction to Applicant Agency

As a potential partner or participant in the BrainBarn plan, you are being asked to fund and expand an existing model. Vermont is all about two vastly different survival models, one is the “Country Club” model, and generates a very rosy perception of this state as a paradise, while the other is a “Life Boat” model which for the majority of the residents of this State is far closer to the truth. Postindustrial Vermont is a place of vast economic inequality the rural countryside of Vermont might be considered part of the “Second World” – not quite in the economic inequity of the “Third World” but no where near the prosperity of the “First World”, which is what we consider the norm in this country.

### 4.1 Organization Propose

The association of these existing or soon to go online maker spaces when augmented.

### 4.2 Locations And Service Areas

In an effort to follow existing state protocols for the distribution of the BrainBarn facilities, our initial proposal would be to locate BrainBarn facilities in underutilized educational spaces. Possible locations include:

VDOL Area	Geographic Location	Proposed Geographic Location
00	Montpelier (HQ)	
01	Barre	Old Labor Hall Basement
03	Bennington	Main Street Bennington High School
05	Brattleboro	??
06	Burlington	Generator
07	Middlebury	
09	Morrisville	??
10	Newport – Derby Line	Butterfield – Tivoli
11	Rutland	??
12	St Albans	??
13	St Johnsbury	The Foundry
14	Springfield	??
15	White River Junction	

**Figure 1 Notional BrainBarn Locations**

Note that our initial configuration is for ten facilities.

### 4.3 Who Benefits, How Many Per Year

?? Needs to be filled in ??

VDOL Area	Geographic Location	First Year Participants	Second Year Participants	Third Year Participants
00	Montpelier (HQ)			

## Brain Barn Grant Proposal

VDOL Area	Geographic Location	First Year Participants	Second Year Participants	Third Year Participants
01	Barre			
03	Bennington			
05	Brattleboro			
06	Burlington			
07	Middlebury			
09	Morrisville			
10	Newport – Derby Line			
11	Rutland			
12	St Albans			
13	St Johnsbury			
14	Springfield			
15	White River Junction			

**Figure 2 Proposed program participation**

### 4.4 Staff Volunteers – Board Of Directors

Each node of the BrainBarn system shall have local direction and guidance.

The following Table Lists the Board of Directors for the Barre BrainBarn.

Name	Title	Phone	Email
Paul Flint	Director	802 595 9365	<a href="mailto:flint@flint.com">flint@flint.com</a>
Renaldo Azotea	Chairman		
Wendy Reys	Treasurer		
Sarah Costa	Secretary		

**Table 1 Barre BrainBarn Notional Board of Directors**

Each BrainBarn Facility shall have the same type of management structure. Thus the following table needs to be completed for each of the 10 regional BrainBarns participating in the Brain Barn Project.

# Brain Barn Grant Proposal

The following Table Lists the Board of Directors for the ?? BrainBarn.

Name	Title	Phone	Email
	Director		
	Chairman		
	Treasurer		
	Secretary		

**Table 2 Notional BrainBarn Board of Directors**

## 4.5 Collaboration – Partnership

## 4.6 Organizational Infrastructure

ADA compliance

## 4.7 Funding Sources

Narrow the focus down...and transition to the problem or need.

## 5 Discussion of Problem or Need

Value added?

## 6 Methods

### 6.1 Overview

The BrainBarn system is designed to benefit two different groups, these are:

1. Participants
2. Customers

The Participants are the unemployed or underemployed individuals who need core technical education, training and apprenticeship activities.

The Customers are the entrepreneurs and small business owners who need the knowledge and skills of the participants along with the aptitude necessary to operate and manage an enterprise.

### 6.2 Target Populations

The target populations either live and own a small business located in Vermont, and may have been in business for one or more years or are unemployed or underemployed program participant in a poverty situation.

The business customers are chosen according to their need for growth with specific focus on the technical needs within the required space, and their inability to reach higher levels

## Brain Barn Grant Proposal

of productivity through technological innovation of both processes and methods. These customers may operate companies that produce software applications, or technology related services and products. The development of the participants is as much part of the product as the actual successful outcome of the customer's entrepreneurial activity.

What matters are both the customer and the participant's experience we are trying to educate and develop both of these groups and the development of the businesses customer and the participants are the elements that we are interested in fixing.

It is our goal that both the customers and the participants shall reside within an SBA qualified empowerment zone. This will hold us to the parameters we believe shall stipulated by the grant authorization office, and ensure that we are serving those most in need of business education, training and advice. It will also give us the opportunity to build ties in communities in which commerce growth could be substantial.

### 6.3 Full Description of Actives

### 6.4 Implementation Time-Line

The following is the representative time line for the Barre BrainBarn. Additional milestones and time lines will be necessary for the other participating sites.

Milestones	Start Date	End Date	Budget	Manager	Department
Milestone					
Creation of Vermont BrainBarns Inc.	5/7/2018	8/5/2018	\$0	VBB Committee	Admin
First BrainBarn Location secured	5/7/2018	8/5/2018	\$0	Paul Flint	Admin
First VBB Company moves in	5/7/2018	8/5/2018	\$0	Property Mgr.	Admin
Totals	\$0				

**Table 3 Barre BrainBarn Time Implementation Time-Line**

### 6.5 Collaboration

### 6.6 Staffing

See Section 8.2

### 6.7 Facilities & Equipment

See Section 8.3

## 7 Evaluation Plans

Process Objective kept within the method section.

An outcome objective details the result of the method.

Program reports

## 8 Future and Other Necessary Funding

Budget

Direct

### 8.1 Executive Summary

**Procurement Sourcing:** Establish long-term channels and determine technology suppliers. Manage sourcing and recommend upgrades on a quarterly basis.

Direct	Year 1	Year 2	Total
<b>Personnel</b>			
Full Time Coordinator	75,000	75,000	150,000
Promotion	30,000	10,000	40,000
Support	25,000	25,000	50,000
Development	25,000	35,000	60,000
Total (includes G&A)			300,000

**Table 4 Barre Facility Direct Personnel Expenses**

Non Personnel	Year 1	Year 2	Total
Direct			
Fab Lab	50,000	10,000	60,000
Welding Lab	12,000	4,000	16,000
Electronic Lab	22,000	2,000	24,000
HVAC Lab	19,000	2,000	21,000
Lease Hold Improvements	45,000	1,000	46,000
GRAND	TOTAL		475,000

**Table 5 Barre Facility Non Personnel Expenses**

### 8.2 Personnel

An FTE with the position of coordinating Director in enhanced with Promotion Support and Development personnel assets for the two year operational cycle of the facility

Their Qualifications are as follows:

- Full Time Coordinator
- Promotion
- Support

## Brain Barn Grant Proposal

- Development

### 8.3 Non personnel

The following are the facilities necessary to open these facilities and to allow for the customer and participant use of the BrainBarn:

- Infant-Elder Care Area (BrainCare)
- Credit Union (VCCU)
- Fabrication Lab (FabLab)
  - Welding
  - Woodworking
  - Electronics
  - HVAC
- Lease Hold Improvements

### 8.4 Indirect

Indirect expenses include:

#### 8.4.1 Strategy and Implementation Summary

The Vermont BrainBarns strategic focus is centered on helping small rural technology research and development businesses find specialized funding and helping them use that funding to enhance their business through the use of trained technologists. If the company will not benefit from VBB services, as per the evaluation, VBB will not offer its services to those clients.

#### 8.4.2 Competitive Edge

The Vermont BrainBarns' competitive edge is in its ability to leverage our relationships in the technology community throughout the State of Vermont. Our partnership with the Vermont Technology Alliance (VtTA) has shown us that technology companies are enthusiastic and committed toward the development of the participants and the creation of "Brain Communities" within these BrainBarns.

#### 8.4.3 Marketing Strategy

The associated regional Vermont BrainBarns plan to market their services through strategic partnerships with multiple profit and non-profit organizations that have a focus within the technology sector of Vermont. Websites for the VBB exist and will be enhanced to market to company participants, new hires searching for positions, apprentices searching for internship opportunities, E-mail campaigns and outreach will be ongoing to promote BrainBarn participation.

#### 8.4.4 Fundraising Strategy

Fundraising and revenue will be generated through a combination of Federal grants and local ??(WETF) grants. In addition, clients will be expected to pay for a percentage of the costs involved, depending on their financial status. The USDA through the Federal

## Brain Barn Grant Proposal

Partnership Program we plan to have as the largest expected revenue generator. Under this program, The Vermont BrainBarns may qualify for additional Vermont State grants of up to \$50,000, and a matching Federal Grant of up to \$125,000. In addition, smaller business development grants at the State and Federal level will help continue funding for the organization.

Federal and State grants alone, or even combined with small business client revenue is still not enough to allow the company to achieve its mission. A low cost monthly retainer fee will be required of all rural participants. Depending upon the participant or customer, this fee might range from between \$50-100 monthly with additional revenue being a percentage of sales generated by the VBB affiliate program. In exchange for this low monthly fee, the client will have 100% access to BrainBarn services, and they will often find that the cost savings, and revenue developed through a relationship with The VBB will more than pay for the low monthly retainer. The retainer may go up or down depending on the level of funding achieved each year by VBB.