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Advancing Southern Vermont

SoVermont Business Accelerator Feasibility Study

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Introduction

"Innovation will drive the future of our economy. What happens in your community will largely be determined by you. Communities that position themselves to take advantage of the entrepreneurial sector AND companies, businesses and individuals that have the education, background and ability to generate innovation are going to drive the economy in the future. They're going to create the jobs and the opportunities for our young folks."

- Steve Carter, Iowa State University Research Center and Pappajohn Center for Entrepreneurship

Introduction

In March of 2015, the Brattleboro Development Credit Corporation (BDCC) submitted an application to the Economic Development Administration (EDA) titled, Accelerating the Green Building Cluster and Tri-State Collaboration. The application proposes the development of the Green Building industry cluster and establishment of a SoVermont Business Innovation Accelerator to potentially replace the 1200 jobs lost due to the Vermont Yankee Nuclear Plant closure.

The SoVermont Accelerator component is described as follows:

1. Launch a new Southern Vermont Business Innovation Accelerator designed to speed creation of new jobs and products for export.
2. Define the comprehensive entrepreneurial infrastructure and financial resources needed to fulfill the CEDS goals and objectives.
3. Pilot programs to support Green Building startups and product development
4. Develop business infrastructure, connecting local resources and filling gaps through a region-wide virtual program providing 'wraparound' support across all sectors to coordinate services, expertise, and mentoring tailored to our unique business environment.
5. Play a major role in filling a critical gap holding back businesses: the lack of investors and capital.

Windham Region will be a primary beneficiary of the Accelerator, but its success depends on connection to a larger innovation ecosystem

Regional Business Accelerator Vision

The Southern Vermont Business Innovation Accelerator leverages our commercial, creative, and community resources to create a unified economic development engine for a thriving region. The Accelerator will,

- Foster a strong entrepreneurial culture and dynamic business environment
- Provide long term resources and support for successfully launching and scaling innovation-based businesses
- Nurtures a diversified economic base that is robust and resilient
- Suite of services for small, specialty or location-specific enterprises
- Attracts new opportunities to the region based on a thriving business environment and high quality of life

Source: Accelerating the Green Building Cluster Tri-State Collaboration, Application to EDA

Introduction

The SoVermont Business Innovation Accelerator initial focus will be on the following four sectors, based upon the SEVEDS CEDS priorities. For the purpose of the study and background information we have included the size and concentration of each sector in the Tri-State area.

Sector	NAICS	2015 Employment	2015 # Establishments	2013 GDP Value	2015 Location Quotient
Green Economy	N/A	2,217	185	$238M	2.04
Healthcare	62	15,527	1,074	$807.5M	1.09
Advance Manufacturing	31-33	13,201	399	$1.4B	1.45
Agriculture	111, 112	2,192	123	$128.1M	1.58

Green Building: Green Economy NAICS codes compiled in November to get employment and establishments.

2015 Employment, Est., and LQ: Industry Tables in EMSI for 2015 to get this data based on 2-digit codes for Agriculture, Healthcare, and Manufacturing. There is no Advanced Manufacturing sub sector, so totaled manufacturing data for these figures.

GDP: GDP data only exists by industry for counties for 2013 at the most recent. EMSI publishes data at the 2-digit level, totaled the GRP at the 6-digit level for the green building cluster.

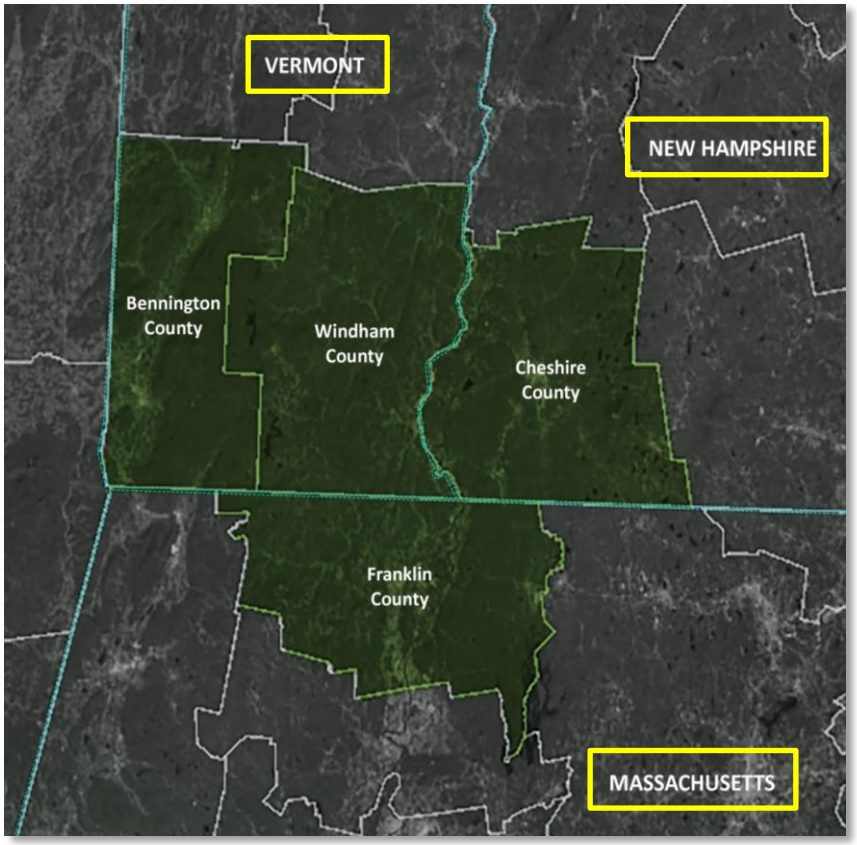
LQ: The average of all LQs in the Green Building Cluster is 2.04.

Study Geography

The SoVermont Business Accelerator Feasibility Study has been conducted across a four county, three state region including, Bennington and Windham County,VT, Cheshire County, NH and Franklin County, MA.

In 2014, the regional economy had 144,339 jobs in 7,318 establishments.

In 2013, the regional GDP was $9.8B or approximately $68,130 per job.



Business Accelerator Study Objective

Assess feasibility of developing an effective and sustainable business accelerator that creates a more robust regional innovation environment

1. *Assess the current state of the region's innovation environment*
2. *Conduct a gap analysis of the region's innovation environment*
3. *Recommend "right" size and design of a regional business accelerator function*

Feasibility Analysis & Approach →

1. National best practices for innovation and business accelerators
2. Resource assessment
3. Needs assessment
4. Feasibility and funding
5. Performance metrics
6. Program design, culture and delivery model

How Does Innovation Happen?

Understanding how innovation occurs and its variations is key to the development and functions of entrepreneurship programming and the strategic direction of a regional innovation ecosystem.

Breakthrough – a large, discrete step change in performance, technology and value provided to users. This is typically what people think of as innovation, requiring a large amount of resources and technical expertise.

Sustaining – an incremental value gain over existing solutions available to users. This is recognized as on-going improvements to an existing product in the market.

New Market – existing product applied in a new way for previously unrelated customers. This innovation usually is achieved by determining an alternative function, feature or capability of an existing product.

Disruptive – a simple, easy to use product intended for the masses at a much lower cost. This type of innovation usually includes simplification of an existing product resulting in lower cost and great acceptability.

Source: Adapted from Innovation Excellence

Key Ingredient for Breakthrough Innovations

"Rich innovation cultures are those that are robust innovation networks that connect people, ideas and objects together in ways that form effective and lasting communities and technologies."

"Great innovation organizations or regions are built around technology brokering, a strategy that exploits the networked nature of the innovation process."

"Successful entrepreneurs and inventors are no smarter, no more courageous, tenacious or rebellious than the rest of us —they are simply better connected."

- Andrew Hargadon, Graduate School of Management at University of California, Davis

TECHNOLOGY BROKERING = ACCELERATOR

Breakthrough innovation is all about being organized around the process of the recombination of old ideas rather than invention. To be an effective technology broker, you need to span a number of industries and more ideas from where they are known and practiced to where they are not.

Recombination innovation is the essence of how to come up with product breakthroughs.

Source: How Breakthroughs Happen by Andrew Hargadon, Harvard Business School Press 2003

Keys to Building a Innovation Culture

1. Focus on fostering a viral innovation culture one person/team at a time
   - A viral innovation culture is based upon building the maximum conditions to generate sustained innovation in an organization or regional economy …not a mandate for centralized control

2. Build innovation habits
   - Build a creative and risk taking business environment with a support package that is reflective of the principles. Innovation is not a thing or end game, but rather a setting that follows the Lean Startup Model… Build-Measure-Learn

3. Institutionalize what innovation looks like
   - Communication plans and systems must highlight and reinforce the gains, outcomes and creativity locally

4. Give mavericks and their networks permission to innovate
   - Let “the horses run,” innovators and entrepreneurs come in many forms and desire to operate in an open and flexible eco-system

Keys to Building a Innovation Culture

5. Celebrate benefits of creative thinking, risk taking and mistake making in personal and professional lives
   - Highlighting risk taking whether success or failure is seen as a learning experience. Be proactively resistant to negative viewpoints and voices in the ecosystem.

6. Incentivize inner motivation as much as financial or professional rewards
   - Competition, challenge and problem solving are key motivators for innovators and entrepreneurs. Incentivizing teams and collaborations can dramatically improve the quality and quantity of new businesses.

7. Give innovation a “space” and bring it to life
   - Innovators desire a comfortable and trusted “place” that they can explore, experiment and develop ideas. These places need to be open and flexible and hot beds for creativity and new thinking.

Source: Adapted from 100 Open

The State of Entrepreneurship in 2016: U.S. is on the Verge of an Entrepreneurial Boom

"While we have near-term concerns, we believe over the long-term that the rate of entrepreneurship will rebound,"

Wendy Guillies, CEO, Kaufman Foundation

1. New sectors are emerging that are ripe for entrepreneurs
2. Barriers continue to fall, driven by the spread of software, higher computing power, cheaper server storage.
3. Advancements in robotics and artificial intelligence
4. The Internet of Things, IoT

Millennial Surge

As they enter their late 30's and early 40's, the "peak age" for business creation they will transform entrepreneurship and disrupt large portions of the US economy.

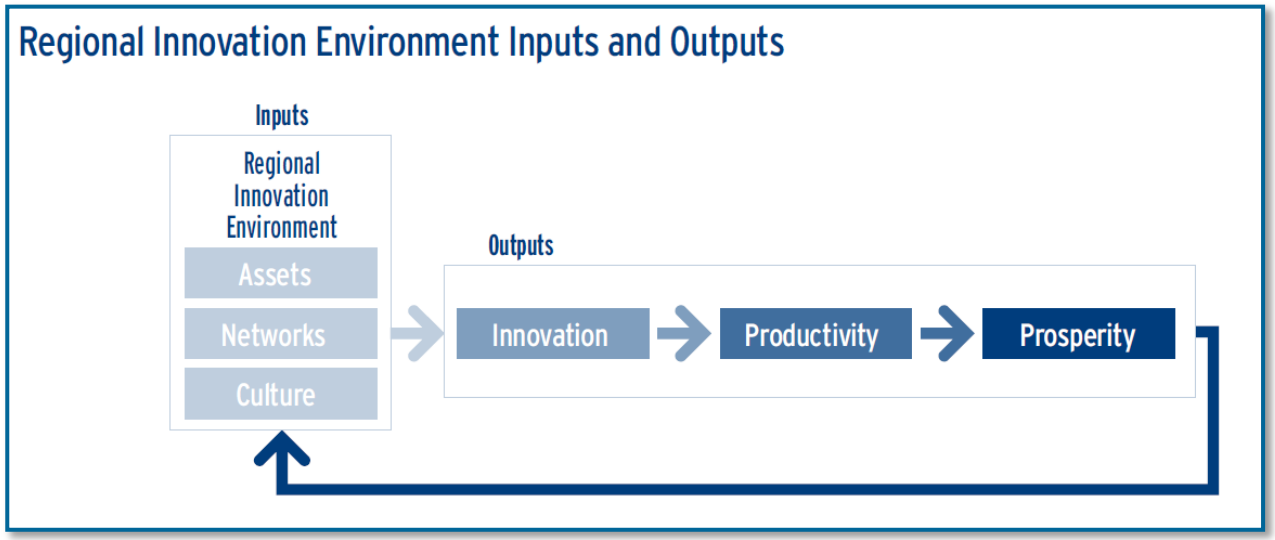
National Best Practice Insights

- Innovation Ecosystems
- Starfish Organizations
- Understanding Entrepreneurs
- Business Incubation
- Business Accelerators
- LEAN Startup Methodology
- Accelerator Cycle

The following best practices are derived from research of high performing innovation and entrepreneurship programs, business accelerators and innovation services complimented by ViTAL Economy's experience with entrepreneurship programs, business incubators and regional community economic development initiatives.

Informed best practices tell us the best way to design, develop and measure an innovation ecosystem. Based upon this information and what we know from experience the three most critical ecosystem priorities are deal flow, knowledge capacity and recognition of gaps that need to be addressed.

National Best Practice – Innovation Ecosystems



Successful regional innovation ecosystems embrace innovation, entrepreneurship and increased productivity as a cornerstone of their economic development strategy. Prosperity is the ultimate goal attaining a higher standard of living, increased per capita income, household income and decreased poverty levels. The establishment and existence of the ecosystem inputs are imperative for the outputs to occur.

Innovation Assets

- Human capital – talent drives innovation
- Research and development institutions
- Financial capital
- Concentrated industrial base
- Transportation and communication infrastructure
- Legal and regulatory environment

Networks

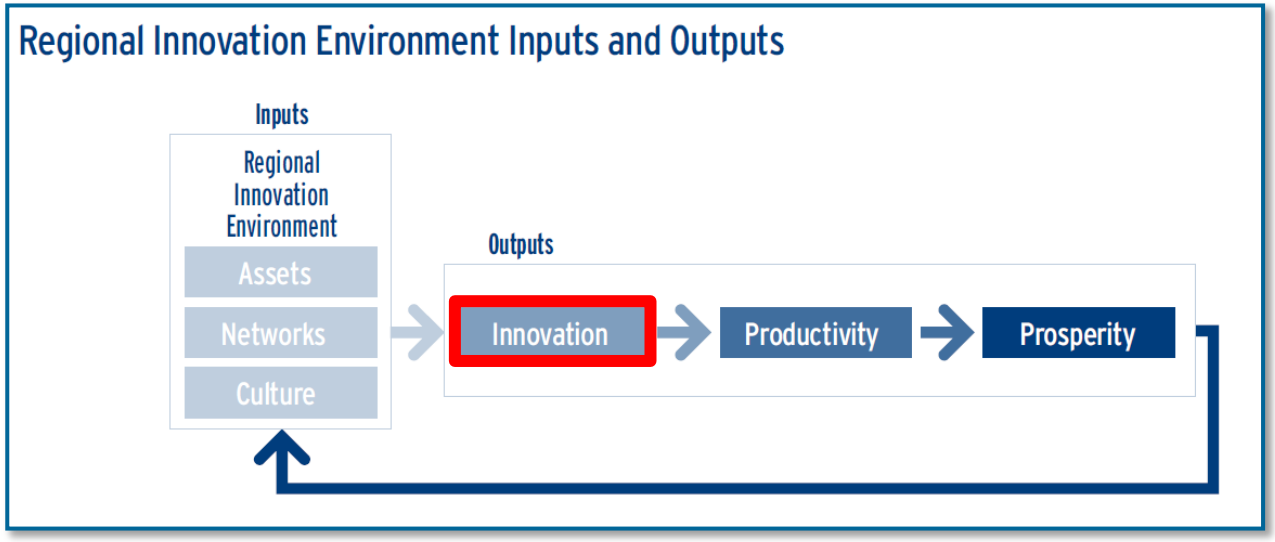
- The assets must be linked in a proactive, consistent and meaningful way.
- Building collaborations between business, education, government and non-profits is a prerequisite to achieving a “innovation hot bed”.

Culture

- Innovation is about change – Is the region supportive and comfortable with change?
- History and climate of collaboration in the business community.
- Supports diversity of experience and backgrounds
- Comfort with risk-taking and understanding of failure

Source: Adapted from Measuring Regional Innovation: A Guidebook for Conducting Regional Innovation Assessments, US Dept. Commerce

National Best Practice – Innovation Ecosystems



An effective regional innovation environment is a system based input/output model. There are three places in a regional economy where innovation must occur to improve productivity and increase prosperity.

1. **Innovation in the Structure of Education and Training** → Workforce Centers of Excellence
2. **Innovation in Technology** → Utilization of technology to allow regional assets to "feed off of each other"
3. **Innovation in Organization Culture** → Allowing freedom and chaos rather than building controlled hierarchies

Example: from the book, PROSPERITY, published in 1998 and written by Bob Davis and David Wessel.
Prior to 1900, textile production and machine tools were powered by a power driven belt that was connected to a central drive shaft that drove all looms. Around 1900, engineers had invented a better way, equipping machine tools with small electric motors. This invention of electricity allowed each loom to run on its own without being connected to all other looms through a central drive shaft. This led to incentive compensation based on individual performance and a whole new system of education called high school.

Source: Adapted from Measuring Regional Innovation: A Guidebook for Conducting Regional Innovation Assessments, US Dept. Commerce

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Shifting "Innovation Ecosystems" from Limited to Unlimited Opportunity

For Ecosystems to be hotbeds of innovation, entrepreneurship for nimble sustainable economies, there must be an understanding and adoption of Starfish attributes. *Starfish and the Spider* authored by Ori Brafman and Rod Beckstorm in 2006 details how starfish organizations (Wikipedia, Craigslist) are changing the face of business and in some cases global security (Al-Qaeda).

Starfish virtual networks stand on five legs that can support an economy; **Circles** (Towns), **Catalyst** (Igniters), **Ideology** (Sustainability), **Pre-existing Network** (Economic Development Districts), **Champion** (Who?)

FROM: Spider Attributes →	***TO:** Starfish Attributes*
• Someone's in charge; based on command & control	• No one's in charge; based on trust
• There's a clear division of roles	• There's an amorphous division of roles
• If you take out a unit, the community is harmed	• If you take out a unit, the community is unharmed
• Knowledge & power are concentrated; directive	• Knowledge & power are distributed; collaborative
• The community is rigid	• The community is flexible
• The community is highly dependent on State and Federal grants	• The community is largely self-funded by a healthy tax base and exports
• Working groups communicate through intermediaries	• Working groups communicate with each other directly
• You can count the participants	• You cannot count the participants

Source: Starfish and the Spider, Brafman & Beckstrom 2006

National Best Practice – Understanding Entrepreneurs

Innovation ecosystems and entrepreneurship is a “contact sport” and requires education and economic development resources to understand the characteristics, motivations and expectations of entrepreneurs. In 2015, the Ewing Marion Kauffman Foundation interviewed thirty-five Entrepreneur of the Year winners to determine the keys to their success. The following are the ten attributes that emerged from the interviews.

1. Emerging companies make a big difference to local employment
2. Emerging entrepreneurs are motivated by love of entrepreneurship
3. Experience is important
4. Co-founders are important for all entrepreneurs, especially first timers
5. Even rapidly growing companies are funded by their founders
6. All entrepreneurs face difficulties in raising funds
7. Entrepreneurs tend to give up equity to grow their business
8. Emerging entrepreneurs learn from customers and markets
9. Emerging entrepreneurs learn from mentors
10. Emerging entrepreneurs give back

Innovations without Entrepreneurs are just ideas!

Vital Economy

Source: Ewing Marion Kauffman, A Snapshot of the Emerging Entrepreneur

National Best Practice – Business Incubation

This study includes an outline of national best practice for business incubators because a high performing innovation ecosystem should include an incubation component.

We hope the Brattleboro Development Credit Corporation (BDCC), which owns and manages a incubator type facility, The Cotton Mill, can apply this information to document and improve its innovation output.

Business incubator best practices fall into two categories:

'Best Performance and Economic Practices' are used to insure optimum performance, sustainability, impact on the local economy, and financing of the incubator as a business. They can be used as an incubator assessment tool in the same way that an investor looks at a business investment opportunity.

'Best Operating Practices' are used to insure optimum internal operations of the incubator. They, too, can be used as an assessment tool.

ViTAL Economy has developed this national best practice model including an assessment tool over the past two decades based upon recommendations by the National Business Incubation Association (NBIA). Within the scope of this report, ViTAL Economy was not contracted to conduct an assessment of The Cotton Mill or other business incubation programs in the region.

The next slide provides an outline of the two best practice models.

Business incubators accelerate the successful development of entrepreneurial companies using a variety of business support resources and services, rental space and equipment. A business incubator can play a significant role within an innovation ecosystem, if operated using best practices.

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National Best Practice – Business Incubation

Best Operating Practices

- Facility and Space Services
- Governance, Management, and Staffing
- Client Screening
- Client Assistance Programs and Client Monitoring
- Client Networking
- Client Capitalization and Financing
- External/Community Professional Infrastructure
- Technology Licensing and Commercialization
- Federal Research Laboratory Linkages
- Graduation Procedures and Policies
- Incubator Self-Evaluation

Best Performance Practices

- Financial Viability and Sustainability
- Marketing and Promotion

Best Economic Practices

- Creating Business Growth
- Creating Job Growth
- Increasing the Survival Rate of New Business Start-ups
- Generating an Economic Return-on-Investment
- Focal Point of the Region's Entrepreneurial Economy

Assessment Methodology and Purpose

The assessment model is a numeric based rating system, weighted for areas of priority and provides an overall score referenced against best practices.

The purpose and benefit of this assessment model is to define current status, identify specific areas of strength and weakness and target areas for performance improvement.

Numeric Rating Framework:

75% to 100%	Excellent… doing the right things
50% to 74%	Good… has excellent potential to succeed with the right changes
25% to 49%	Has potential... needs work, but can be moved in the right direction
0% to 24%	Poor… Need .to start over

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National Best Practice – Business Accelerators

Business Accelerator programs are an evolution of early business incubator models, but include a variety of differentiating characteristics. Most business accelerator models have similar approaches and design. Below are best practice metrics for attracting entrepreneurs to generate sufficient deal flow.

Common Design Characteristics

Timing	3 months/13 weeks
Seed Funding	$5,000 - $20,000
Equity	6% - 8%
Cohort Size	6 – 10 companies
Network	Strong mentor connections
Training	Pitch practice, workshops, office hours
Management	3-5 management team
Mentors	50 mentors, variety of experience and expertise
Deadline	Demo/Final Pitch Day
Facilities	Office space/services, co-working space, partnerships

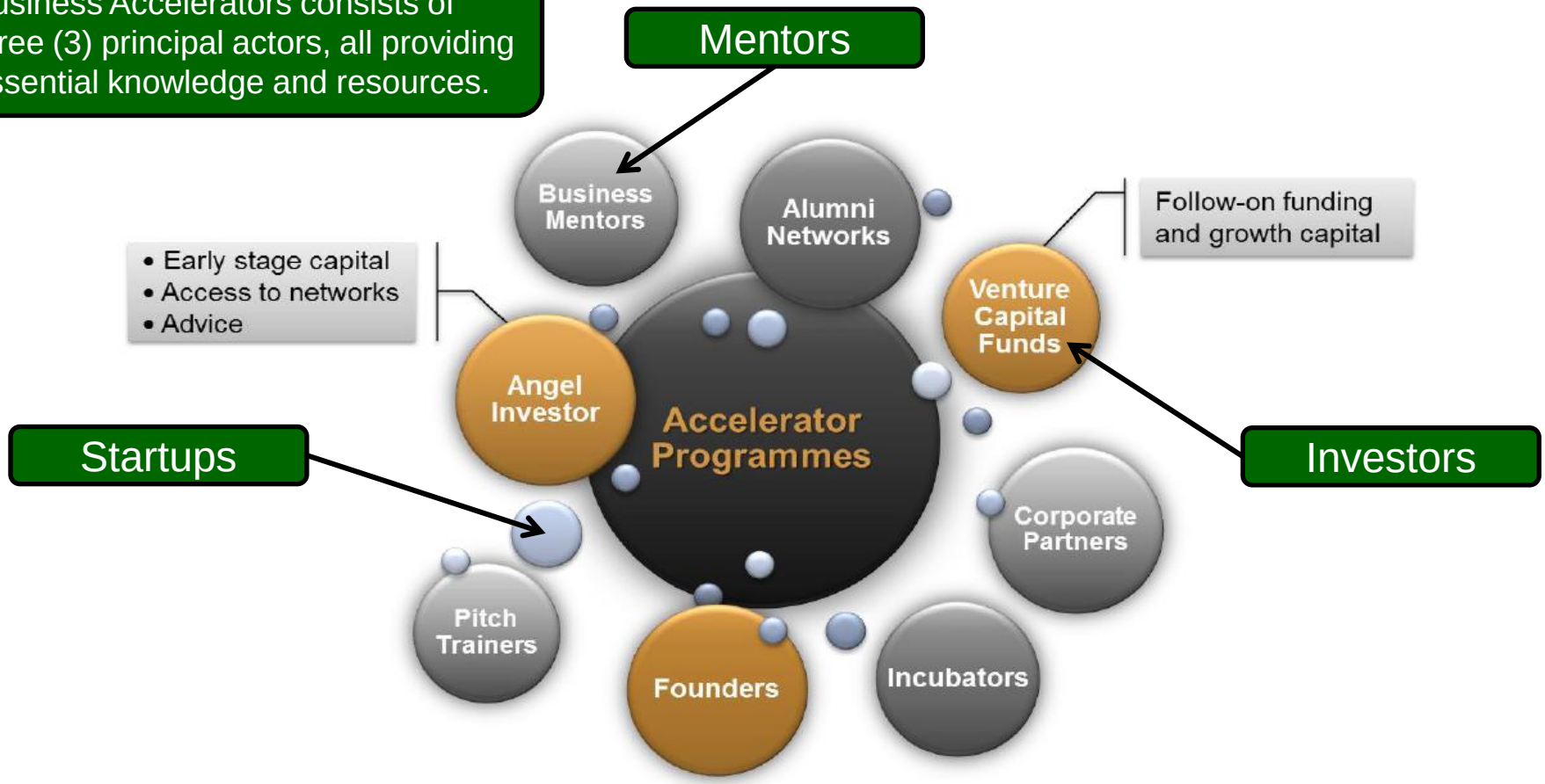
Performance Metrics

Survivorship	10%-15% increase in survival rates vs. firms not in the program by the fifth year
Deal Flow	5% -10% of venture firms deal flow will come from program
Investment Failure Rate	50% - 55% of the accelerator investments
Investment Success	9% of accelerator investments achieve 10x return
Investment Period	Four years
Prospect Acceptance	< 10%
Overall Returns	25% of startup companies

Source: See research appendix

National Best Practice – Business Accelerators II

Business Accelerators consists of three (3) principal actors, all providing essential knowledge and resources.

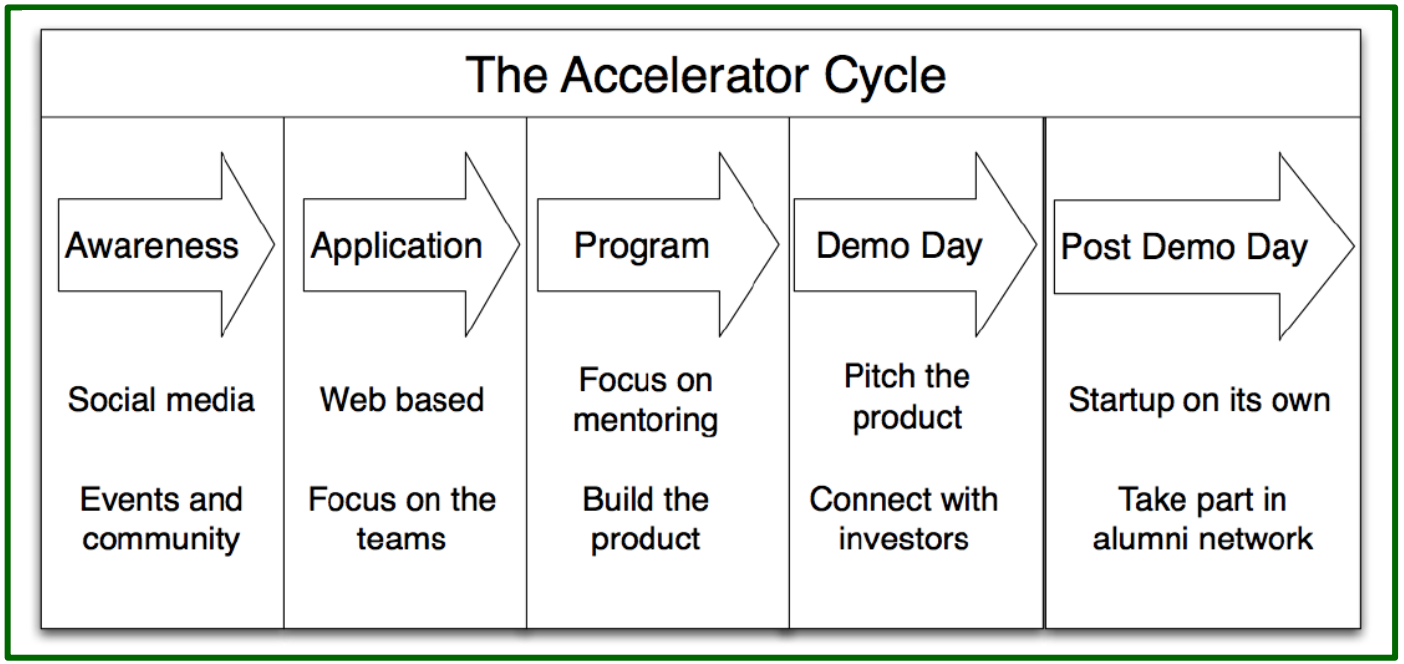


Top Three Factors Influencing Entrepreneurs to Select and Enter a Business Accelerator Program

1. Quality of Mentors
2. Brand Reputation
3. Networking Opportunities

Source: Business Accelerators: The Evolution of a Rapidly Growing Industry, University of Cambridge

National Best Practice – Accelerator Cycle



Source: Accelerating Success: A Study of Seek Accelerators and Their Defining Characteristics

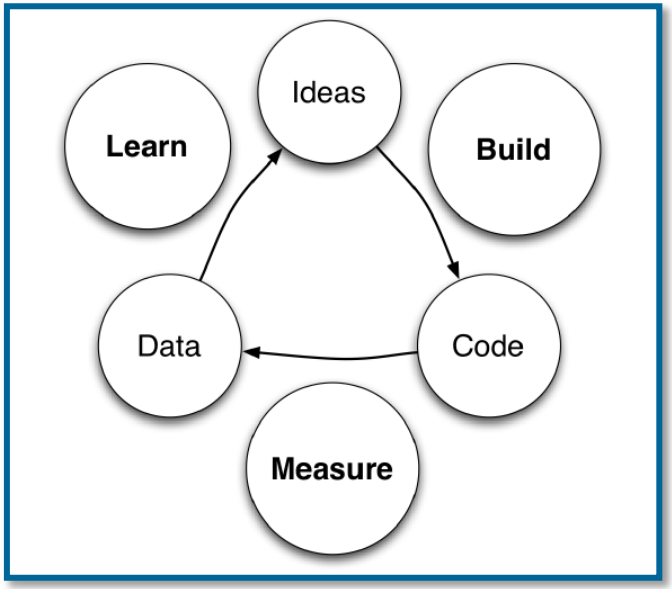
Success of business accelerator programs resides on two key factors, which must be a core guiding principle and strategic focus.

1. **Selecting the right companies** and teams to participate in the 13 week intense mentoring program. The selection criteria should include the scalability of the business, the "fire in the belly" of the founders and management and a willingness to accept and absorb mentorship.

2. **Building a brand based upon performance success** that will attract a large enough sample of companies to choose from, to get the right companies. Healthy programs will admit 10% of the applicants, which means to achieve a cohort of 8 companies requires 80 applicants.

National Best Practice – LEAN Startup Methodology

The Build-Measure-Learn Loop



The Business Model Canvas

Key Partners	Key Activites	Value Proposition	Customer Relationship	Customer Segments
	Key Resources		Channels	
Cost Structure			Revenue Streams	

Rapid economic and marketplace change and the speed of innovation is a challenging and even threatening environment for startup and emerging companies to operate. A business accelerator must recognize this environment by behaving like the entrepreneurs it is supporting.

LEAN startup is about reducing waste and time in the process of finding a scalable and viable business. Speed is achieved by producing a “minimum viable product” and getting to market to test measure, learn and adapt.

Source: Accelerating Success: A Study of Seek Accelerators and Their Defining Characteristics

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Prioritizing Best Practices for the Region

- High performing and effective innovation ecosystems are the result of the connection and leverage of three distinct but integrated elements; innovation assets, networks and culture.
- Ecosystem must include the innovation and reinvention of three cornerstones of regional economies; structure of education and training, application of technology, and the organizational culture.
- Entrepreneurs (people) not capital is the critical raw material and resource that fuels an innovation ecosystem engine. Entrepreneurship is a “contact sport” that needs recognition and understanding of the personality and priorities of entrepreneurs and constant opportunities for interaction.
- Business accelerator programs or entities are a high risk venture requiring specialized leadership expertise, sufficient financing capital and a high risk tolerance by sponsors.
- Innovation ecosystems are not operated or controlled by a hierarchical structure (Spider), but rather function in a climate of freedom and chaos (Starfish).
- “Igniters” must be a robust component of the ecosystem, to generate the required deal flow to attract capital, providing sufficient return on investment and enough to sustain the ecosystem.
- Best practices should be prioritized, resourced and implemented intentionally for the network and ecosystem to succeed.

Innovation and Entrepreneurship Resource Assessment

This Resource Assessment was done as a basic evaluation of the Tri-State Innovation environment and assets. The assessment criteria has been established based upon best practice fundamentals to assess strengths, weaknesses and gaps. The assessment focuses on the collection of innovation and entrepreneurship assets in the area, their relationship to one another and their current condition. The assessment rationale has been determined through business leadership interviews, evaluation against best practices and the observations by Vital Economy Alliance members over the past seven years.

Resources for this assessment have been defined from a tangible and intangible viewpoint. Tangible assets include the facilities and equipment available to entrepreneurs to the quality and quantity of human capital. Intangible assets include the climate of innovation and how the region is perceived internally and externally by entrepreneurs.

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Resource Assessment

Assessment Criteria	Rating	Assessment Rationale
Network of Innovation and Entrepreneurship Assets • To what extent does the region have informal or formal networks including champions, connectors or brokers that enables access to specialty resources and the free flow and exchange of business knowledge and creative thought?		• The Tri-State area and the immediate surrounding area have a robust collection of intellectual capital, research facilities, and programs that can be leveraged. • There is not a champion for the innovation ecosystem that spans geopolitical boundaries resulting in a network. • The Green Economy Innovation Hub and the work of this feasibility study has created new relationships which should be strengthened and not duplicated.
Mentors and Technical Expertise • Does the region have a sufficient supply of knowledgeable and experienced business professionals to serve a wide spectrum of entrepreneurs and new ventures on a one-on-one basis? • The region has a high level of satisfaction with the quality and availability of business support services.		• The region has a solid foundation of traditional business support services, SBDC, SCORE, PTAC and MEP that are in each of the four counties. • The majority of the area does not have sufficient supply of specialty knowledge and expertise in the form of mentors. • Technical expertise that resides in the areas institutions are not proactively connected to entrepreneurs. • Entrepreneur awareness of support resources is limited. They have moderate confidence in their value.
Brand Promise • Does the region have a reputation locally and regionally as an area that cultivates, supports and celebrates innovation and entrepreneurship? • Does the region have a branded entrepreneurship initiative?		• The area is not recognized externally as an area for high rates of innovation and entrepreneurship. It is overshadowed by high performing innovation ecosystems in Burlington and Boston. • Underground entrepreneurs exist and chose to live in the area for its quality of life and social ethic. • There is no clear and communicated entrepreneurship initiative.

 *= Weak to None*

 *= Below Average*

 *= Average*

 *= Good*

 *= Strong*

Resource Assessment - II

Assessment Criteria	Rating	Assessment Rationale
Financial Capital • To what extent does the region have available a full spectrum of finance resources from mico-loan to seed stage, equity, venture, mezzanine and mature business capital. • Is access to capital seen as a barrier to business startups?		• Borrower understanding of application and collateral requirements is weak. • Access to equity capital within the region is not effectively organized. • Alternative lifecycle financing resources are either limited or non-existent in the region.
Human Capital • What is the regions demographic mix, quantity of 25-44 year olds? • What is the overall level of educational attainment? • What is the performance rating of the K-12 system? • What is the number and type of degrees awarded by higher education? • What is the concentration of Professional, Scientific and Technical (PST) employment?		• The region continues to be challenged with an older demographic than their State average, with a smaller quantity of 25-44 year olds. • The regions K-12 schools rate above average by Niche.com, Franklin (B), Cheshire (B), Windham (B-), Bennington (C). • The region as a whole and as individual Counties has a higher than the US average for 25+ with a Bachelor Degree or higher, but low in PST employment. • The region has a consistent intake of bright young people coming to the area annual to the colleges and SIT.
Innovation Culture • Does the region recognize and appreciate diverse viewpoints, backgrounds and ethnicity? • The region has a history of collaboration and believes that connecting and sharing is more productive. • Residents and leaders understand and appreciate the entrepreneurship process.		• There is a history of innovation in the last 15 years with companies such as; Chroma, GS Precision, NECCA., Sonnax, Against the Grain, New Chapter, etc. • Collaboration across geopolitical boundaries has been challenged by the township form of government. • Foreign born population is 1% versus 13% for the US. • The region lack a connected innovation ecosystem.

 *= Weak to None*

 *= Below Average*

 *= Average*

 *= Good*

 *= Strong*

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Resource Assessment - III

Assessment Criteria	Rating	Assessment Rationale
Best Practice: operation, economic • The regions economic development strategies and programs utilize a best practice framework and performance assessment methodology to insure optimum impact and sustainability. • Business incubators, co-working spaces and entrepreneurship programs use a best operating practice model.		• The region has examples of high performing business support and/or incubation programs that have produced results over a long period, Hannah Grimes Center, BDCC. • Regional community economic development leaders recognize the importance of entrepreneurship in a strategic plan and have made investments to support the strategy. • The region has not implemented best practice operating procedures, programs or facilities.
Understanding Entrepreneurs • The region has an ongoing program that identifies, recognizes and celebrates entrepreneurs. • Innovators and entrepreneurs are openly interacting and participating in economic and business development activities.		• Entrepreneur value to the community is generally understood. There are limited locations and activities to connect entrepreneurs. • Academic institutions have recognized the value and importance of integrating entrepreneurship training into traditional curriculum and launching new courses. • Entrepreneurs have received value from their participation in business plan competitions; contacts and recognition.
Climate of Entrepreneurship • The region has a positive climate for business startups in the licensing, permitting, labor and other regulations. • The areas tax climate is are attractive to business startup and growth. • The region has a understanding the role of failure in entrepreneurship.		• Vermont is an expensive state to operate in, “people make a choice to live here!” • Vermont is usually in the bottom 10 in States for overall business environment., Forbes, Tax Foundation, etc. • Vermont ranks #5 in the 2015 Kaufmann Startup Index, recognizing that this number is skewed by Burlington. • There is no business startup tracking system in Vermont.

 *= Weak to None*

 *= Below Average*

 *= Average*

 *= Good*

 *= Strong*

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Resource Assessment - IV

Assessment Criteria	Rating	Assessment Rationale
Physical Infrastructure • The region has locations that provide unique and flexible spaces for startups and emerging businesses. • Entrepreneurs and inventors have access to specialized equipment and technical tools. • Affordable Internet and mobile access is ubiquitous		• The area a flexible spaces for entrepreneurs but it is not part of an organized or expanding network. • Limited access to specialized equipment and technical tools in the region. • High speed and mobile access to the Internet is not consistent from town to town, whether, at home, at work or on the go. • There are not technology centers that make ultra high speed technology and services available.
Quality of Life • The area is acknowledged as a attractive place to live, work and recreate. • The area has access to high quality education, healthcare, entertainment and social networks. • The environment and natural features are valued by residents.		• The Vermont natural environment and social ethic is an attractor for niche market workers, businesses and entrepreneurs. • The Vermont quality of life, leveraged with the stature of people making the area their vacation residence, is an opportunity to improve the quality and quantity of entrepreneurship. • Affordable workforce housing is a barrier for young entrepreneurs.
Idea Igniters, R&D, Higher Education, Events • The region has regular events and programs that generate new business ideas, linked with business support services. • Higher education institutions are engaged in the development and cultivation of entrepreneurship. • The region has designated research and development sites and entities that actively provide technology transfer opportunities.		• The region has pockets of idea igniter events which are channeling entrepreneurs, Hannah Grimes, Valley Venture Mentors, FreshTrack Road Pitch, VCET and Windham Grows. • The region needs to increase the number and variety of entrepreneurship events to increase deal flow. • Higher education institutions in the region are launching new entrepreneurship courses that should connected to the ecosystem resources. • The region has a weakness in research and development, but just adjacent to the region lie leading research institutions.

 *= Weak to None*

 *= Below Average*

 *= Average*

 *= Good*

 *= Strong*

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Resource Assessment Conclusions

- **Business and entrepreneurship resources** exist in a variety of forms, but are not well recognized, understood or easily identifiable for a point of entrance.
- **Business capital** is not a problem, the resource issue is the network between funders and entrepreneurs and the need for better and more complete plans.
- **"People choose to live in Vermont"** – the high quality of life and social ethic is an indigenous resource that can be leveraged to grow and attract niche entrepreneurs.
- The innovation ecosystem assets and resources do not collectively utilize **best practices** in program operations and economic strategies.
- The region is well above average in access to the most importance resource for a healthy innovation ecosystem; **Human Capital.**
- **The area is not seen as an innovation hub**, it is overshadowed by Burlington and Boston.
- The region does not have all the resources available to strengthen the innovation ecosystem and should not look to duplicate but rather **connect to others**.
- There is no **branded entrepreneurship initiative** or communication strategy for the region.

Innovation and Entrepreneurship Needs Assessment

The Needs Assessment has been conducted by focusing on the condition and connection of the resource assets and demand in the Tri-State innovation environment. As in the Resource Assessment this Needs Assessment evaluated the condition of key attributes and the desires of the actors that drive a healthy innovation ecosystem. The first section of the Needs Assessment provides a detailed explanation of the regions evaluation against the conditions of a healthy innovation environment followed by our conclusions and analysis.

The Needs Assessment conclusions have been determined by a combination of what was heard in the marketplace through interviews and interactions and observations by ViTAL Economy Alliance members over the past seven years.

Needs for the Areas Innovation Environment

Assets

- ✓ A Home for Entrepreneurs, a physical location that is well known, trusted and resourced to create the intersection between entrepreneurs, investors, mentors and support services.
- ✓ Research and Development capacity and capability, generating new products, enabled by a technology transfer system
- ✓ Robust wireless and mobile technology services, allowing freedom of access
- ✓ Integrated finance resources improving access to lifecycle of business finance

Networks

- ✓ Engagement of higher education intellectual capital, faculty and students with entrepreneurs
- ✓ Variety and frequent innovation events, cultivating entrepreneurs and innovative thought
- ✓ Social network events creating opportunities for sharing and new business connections
- ✓ *Valley Innovation Network* – strategic and formal collaboration of business, education, government and non-profits
- ✓ Strengthening of the mentorship capability without duplication of expertise

Culture

- ✓ Strategic communication plan reinforcing a climate of innovation and entrepreneurship
- ✓ Leverage the international assets, residents and students for global market opportunities
- ✓ Reduce hierarchical control, allow for freedom and chaos to take hold and drive innovation
- ✓ Recognize failure as a learning process and opportunity for improvement

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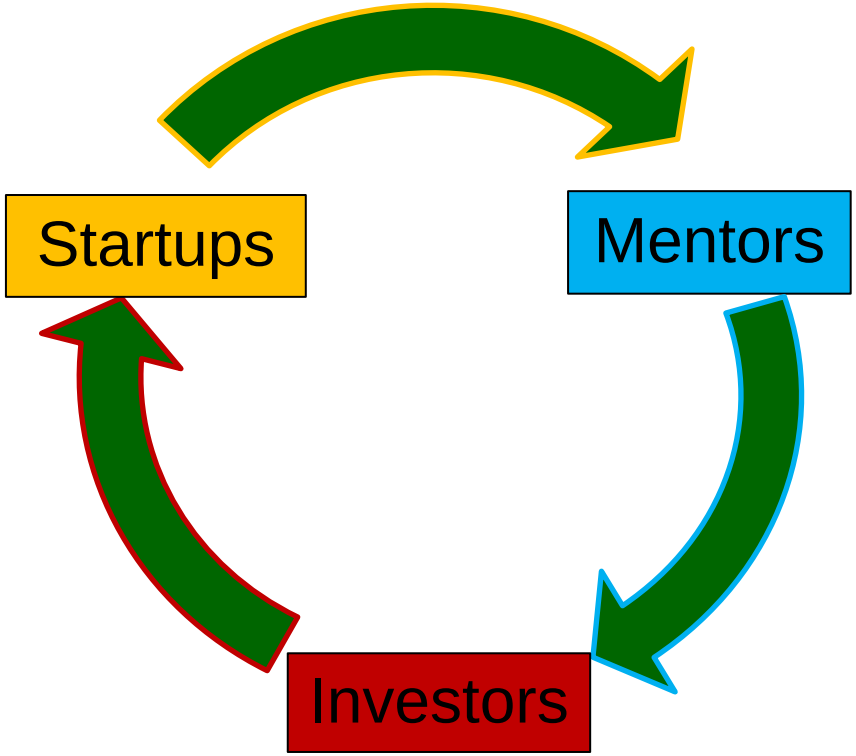
Needs of the Three Key Actors to be Effective

Startups need the support of both mentors and investors. Mentors, providing specialty and dedicated business support to accelerator growth. Investors, provide access to capital outside of traditional sources.



Mentors need a coordination resource to pre-screen the business prospects to ensure the appropriate fit and deployment of expertise. Mentors also need investors to provide the capital resources necessary to grow the company.

Investors need the quantity and quality of startups and emerging companies. Sufficient deal flow is required to attract investors, maintain investment interest and provide sufficient return on investment. They also need a strong and effective mentor pool to reduce risk and improve outcomes.

Primary Regional Innovation Ecosystem Need

Idea Igniters = Deal Flow

Deal Flow Dynamics

100 contacts = 50 qualified prospects = 9 valid clients = 4/5 businesses

Events

- ✓ Startup Weekends
- ✓ Business Plan Competitions
- ✓ Entrepreneur Bootcamps
- ✓ Meetups
- ✓ Innovation Workshops
- ✓ Innovation Speaker Series
- ✓ Entrepreneur of the Year
- ✓ Entrepreneur Week
- ✓ Causal Network Events

Higher Education

- ✓ Entrepreneurship curriculum and courses
- ✓ Technology Transfer
- ✓ Research and Development
- ✓ Conferences
- ✓ Alumni events and networks
- ✓ Entrepreneur in Residence
- ✓ Awards

Business

- ✓ In-house research and development
- ✓ Innovation adaptation
- ✓ Business Retention and Expansion Programs
- ✓ Research commercialization

The region needs more idea igniters to realize sufficient deal flow to attract capital, sustain a healthy ecosystem and have a positive impact on the economy.

Needs Assessment Conclusions - I

To strengthen and secure the long term performance of an innovation ecosystem the region needs to fill gaps in the following resource areas.

- **Mentors** with specialty skills and experience that can concentrate and commit to extended support of individual businesses and startups.

- **Specialized expertise** that can be directly accessed or can be provided through educational programs; Alternative business ownership models, Marketing (direct outbound vs. inbound & online), Workforce development and talent attraction, Accounting systems and Quickbooks.

- **More idea igniters** both formal and informal sources. Once ignition has occurred the ecosystem must be able to identify them and support them through a open system model. Entrepreneurs view business plan competitions as valuable to the them. Competitions have increased the creation of new businesses.

Needs Assessment Conclusions - II

To strengthen and secure the long term performance of an innovation ecosystem the region needs to fill gaps in the following resource areas.

- Be proactive to **create more intersections** between entrepreneurs, mentors and funders, social events, TED type talks, pitch programs, or entrepreneur celebrations
- Multiple locations in the region that provide a **"home" or 'hub" for entrepreneurs** to work and network; co-working spaces, makers labs, or technology labs
- **Improved Internet access** through wireless, cell and landline broadband service. Mobile and dependable Internet service is an expectation for young entrepreneurs.
- **Create a chaotic**, free and open environment for inventors and entrepreneurs that spans town boundaries.
- **A consistent communication plan** that highlights entrepreneurship and innovation

Accelerator Feasibility and Funding

This section of the report provides analysis and judgments for the feasibility of a business accelerator in Windham County, Vermont. For a full understanding of the analysis there must be a clear definition of two topics by which feasibility conclusions have been determined.

- ✓ **Business Accelerator** - a focused, independent and financially sustainable program that has a highly competitive application process, provides pre-seed investment in exchange for equity, a priority towards scalable ventures with management teams and a time-limited engagement with intensive mentorship.

- ✓ **Feasibility –** the probability that the area and appropriate organizations have the resource capability to create, operate and sustain a business accelerator program serving sufficient market demand.

The following slides provide feasibility analysis on the following topics.

- Development of startup and research capital in appropriate structures
- Development of a regional capital system
- Build research collaborations with research institutions
- Develop Small Business Innovation Research (SBIR) & Small Business Technology Transfer (STTR) expertise for small business research
- What is feasible to launch today?

BDCC should create regional start up and research capital funds in the region and appropriate structures

- The region can make startup capital available in the near term by partnering with existing programs such as Valley Venture Mentors, FreshTracks, etc.
- Presently, the region does not have the expertise to successfully manage a high risk startup fund. It can and should build its expertise through partnerships with proven programs to learn the fundamentals of expand startup business financing.
- Windham County does not have the initial base of regional start up and research capital.
- The region does not have a scale of business opportunity to justify a Windham County based entity.
- Windham County and BDCC do not have the fund management experience and mentoring resources to support startups on a continuing basis.
- At this time the region does not have strong relationships with research resources and institutions to support and generate business startups.
- The region is weak in senior and middle management talent that startup companies can tap into for growth.

BDCC should create regional capital sources such as revolving loan funds and/or seed capital.

- WCEDP funds should be leveraged to create a BDCC managed revolving loan fund for business growth and expansion in Windham County, patient quality of place capital that builds viable local businesses that are not scalable.
- BDCC must make a decision, based upon a sustainable business model, if it is going to be an economic development lending resource for the region.
- The region does not have enough “idea igniters” and scalable business opportunities for a seed capital fund to be sustainable that this time.
- BDCC can tap into the significant population of ultra high net worth families with homes in the region and have interest in improving the area to establish a seed capital and quality of place funds.
- BDCC needs to build the due diligence and risk assessment capability to evaluate and judge scalability for seed capital investments
- BDCC should consider building a regional Community Development Finance Institution (CDFI) style business and sustainable Environmental, Social and Governance (ESG) Impact Investment fund resource to serves beyond Windham County & fill financing gaps.

Accelerator Feasibility Analysis

The regional economic development entities should build research collaborations with Universities and research laboratories.

- Identity the specific research resources that align with the priority industry sectors defined in the CEDS; Green Building, Healthcare, Technology-driven Manufacturing, Farm and Food.
- The region is in close proximity to multiple Universities and research laboratories that allow for interaction to tap knowledge, unique facilities and potential technology transfer.
  - University of Vermont
  - Rensselaer Polytechnic
  - University Massachusetts Amherst
  - Cold Regions Research and Engineering Laboratory
  - Antioch University
  - Bennington College
  - Dartmouth University
- These institutions have commercialization expertise and technology transfer offices that can support new ideas being generated through the regions idea igniters.

Accelerator Feasibility Analysis

BDCC should develop small business innovation research (SBIR/STTR) grants for companies.

- Southern Vermont has historically a low level of SBIR/STTR awards, due to the small number of companies that target this program, are eligible and have the capacity to manage the awards
  - Vermont SBIR/STTR market/awards (1984 – 2015) = 417 awards, $118M
  - Windham/Bennington County = 2 awards = $948,900
- SBIR Eligibility Criteria
  - For profit company
  - Ownership by permanent residents of US
  - Business not controlled by more than 50% by venture capital company
  - <500 employees
  - Proposed firm must perform at least 2/3rd of work Phase I and ½ in Phase II
- BDCC can build capability by creating a relationship with Vermont SBDC for access and assistance to introduce these programs to the region.
- BDCC can target specific companies that fit the profile of SBIR/STTR awards to evaluate interest, potential benefits and support services.

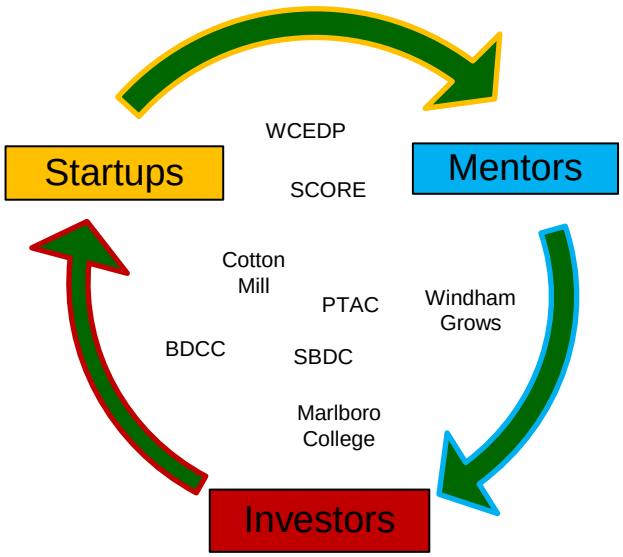
Accelerator Feasibility Conclusions

- It does not appear that a traditionally designed accelerator program is feasible at this point in time and will not be until a number of market fundamentals improve.
- The region requires a more productive innovation ignition climate that can be supported by existing experienced finance and mentor programs to launch new ventures while gaining valuable local experience.
- Starting now, local and regional economic development entities can develop relationships and alliances with Universities and research institutions which are directly related to the targeted industry sectors.
- BDCC can lead the building of a networked innovation ecosystem by convening, connecting and leveraging existing programs, facilities and resources.
- The region can begin to expand the establishment of meet up locations and programs that build relationships and generate ideas in multiple towns.
- Virtual communication and access to resources must be created to remove distance as a barrier.
- Themed meetup and startup events where innovations can be explored can be designed and launched for the four targeted industry sectors (One event per sector per year)

Critical Mass of a Regional Network Increases Feasibility

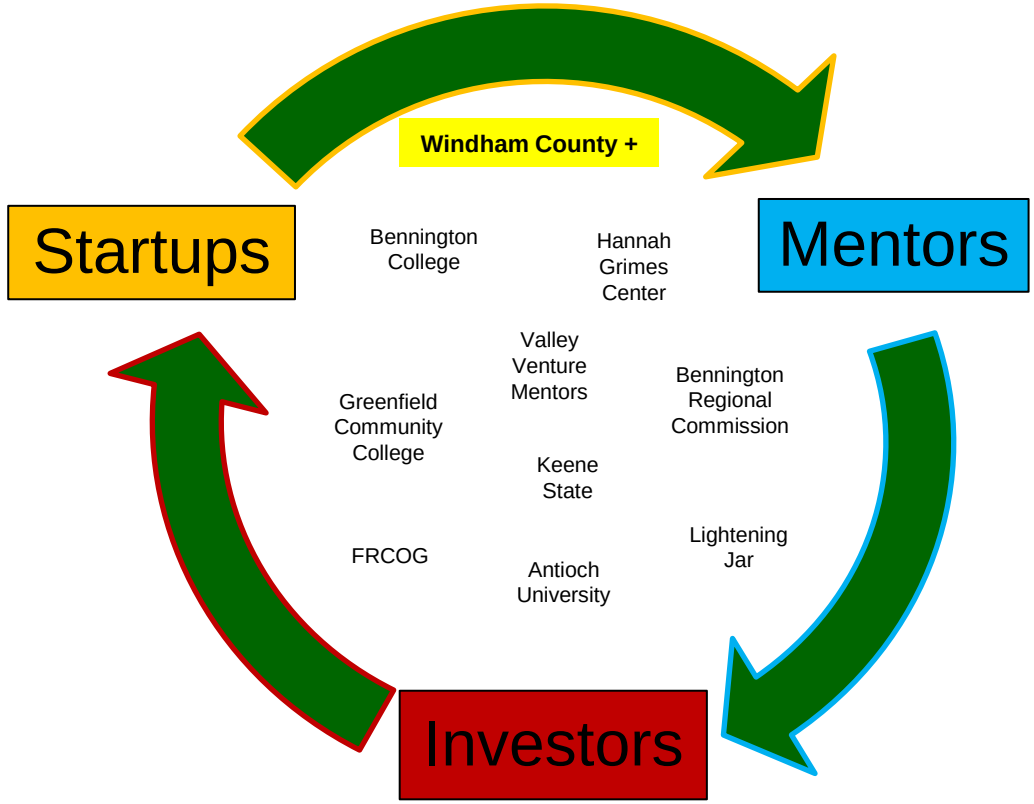
From → To

Windham County



27 Towns
44,216 population
5 Higher Ed Institutions
9,598, 25-44 year olds
1,726 Establishments
33,268 Employment

Regional Network



1 City, 88 Towns
229,391 population
9 Higher Ed Institutions

50,656, 25-44 year olds
6,618 Establishments
144,339 Employment

Program Performance Metrics

Performance metrics are used in two different ways for the development and long term sustainability of a innovation ecosystem. In the case of the SoVermont Business Accelerator we are suggesting a spectrum of performance metrics which track a program development path.

Once a set of performance metrics are identified for a defined period of time, a goal or target should be established for each. The scope of this project did not include working with local leaders to establish targets.

Performance metrics for the foreseeable future should be tracked, monitored and communicated to measure the success of the innovation ecosystem, in terms of CEDS, sector growth, return on investment and funding leveraging.

Performance Metrics Framework

Performance Metrics over the Development Path

Ignition

- Number of committed partners in the Ecosystem network
- Participants at informal social events
- Attendees at idea generation, collaboration and educational events
- Intake volume to SBDC, SCORE and other traditional services

Creation

- Number of new ideas, output from idea generation events
- Number of qualified prospect identified by triage system
- Number of new business starts or product lines

Acceleration

- Number of businesses in focused acceleration programs
- Jobs created from startups and expansions
- New Business Revenues
- Business startup survivorship by year 5, > 80% if actively involved in Ecosystem programs
- Investment match ratio, minimum of 1:1, target 1:1.25
- Attraction of new business finance capital to the region

Ecosystem Yearly Performance Metrics Model

Contacts ⟶ # Qualified Prospects ⟶ # Companies ⟶ # Exit & Growth

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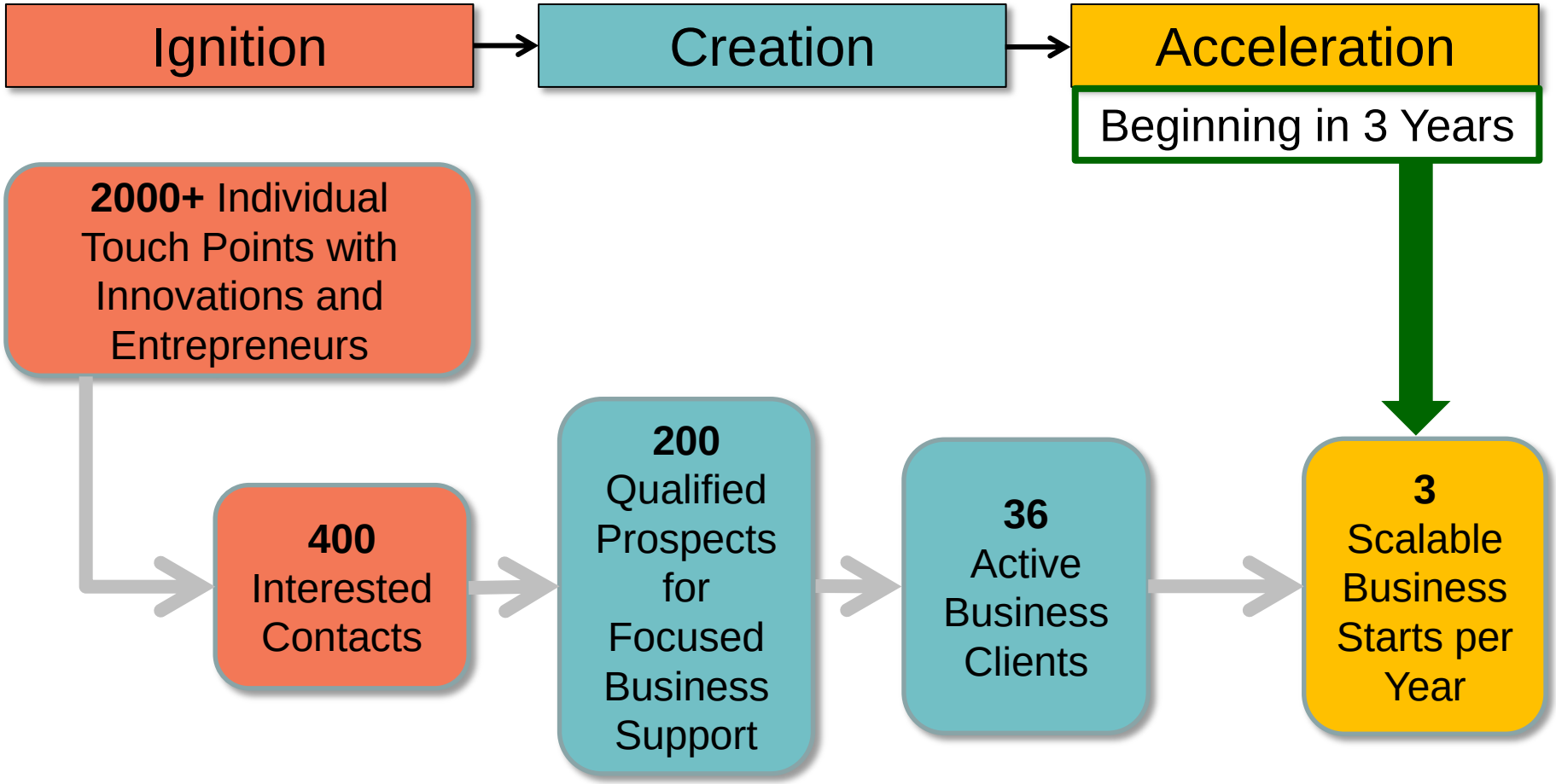
Performance - Potential Impact Estimate



Recommendations and Timeline

The final objective of the SoVermont Business Accelerator Feasibility Study is to provide a recommended design, implementation path and timeline for an innovation and entrepreneurship ecosystem including a business accelerator. The context of the recommendations is based upon two fundamental components which must be achieved for results to be generated.

#1 Reach Critical Mass – Tri-State region must reach critical mass of innovation and entrepreneurship focus, quantity and quality of ignition, support resources, sufficient deal flow to sustain the ecosystem and alternative business capital structures.

Note: Burlington/Chittenden County Vermont has reached critical mass with a population of 160,500 people
Springfield, Massachusetts population, 165,378
Tri-State regional population, 229,391 (Cheshire 76,896, Windham 44,216, Franklin 71,408, Bennington 36,871)

#2 Create the *Green Mountain Innovation Network* – The region has a substantial collection of entrepreneurship and business development resources, most of which should be extended and not duplicated within the region. These regional resources and assets need to be networked through communication, common vision and values and a nimbleness to make support and programs available across geo-political boundaries. Having a strong innovation network in the region will enable a more efficient and effective way to access and deliver resources from outside the region.

Regional Business Accelerator Vision

A unified economic development engine, that.....

- Fosters a strong entrepreneurial culture,
- Cultivates a dynamic business environment,
- Provides long term resources and support for entrepreneurship,
- Improves prospects for launching and scaling innovation based businesses,
- Helps early stage companies, scalable businesses and existing businesses through new products, new market and new methods,
- Draws on the intellectual capital in colleges and Universities,
- Connects innovators with capital and financing

The outline above is a vision included in the BDCC application to the EDA for the SoVermont Business Accelerator. This vision is valid and can be used as a foundation for building a collaborative approach to create the *Green Mountain Innovation Network* (GMIN).

A general recommendation to achieve the vision for the Tri-State region is to adopt and establish a regional innovation ecosystem model versus a narrow focused traditional business accelerator.

Recommendation/Implementation Plan and Timeline

Short Term, within the next year –

- ✓ Initiate a collaboration to create the ***Green Mountain Innovation Network*** – a fertile region for creation! (see slide 53&54)
  - Engage regional and external innovation and entrepreneurship resources and assets
  - Confirm a network vision and starfish ecosystem model and values
  - Establish five years goals and quantify individual network partners value and expectations
  - Launch virtual meeting and communication systems to remove distance barriers
  - Design consistent intake framework to define the optimum development path and efficient resource application
  - Collaborate to create a triage model to identify, prioritize and support scalable opportunities
  - Inventory the GMIN mentor and technical expertise pool, identifying gaps and a shared resource plan
- ✓ Define and establish mutually beneficial relationships with regional Universities and research institutions relative to the regional priority industry sectors.
  - Define the capability and availability of specialty equipment, facilities and faculty
  - Build strong relationship with technology transfer offices and administrators
  - Explore and assess “on the shelf” patents and other research that has not but could be commercialized
  - Cultivate and attract student entrepreneurs and their business ideas into the GMIN (see slide 54)
- ✓ Establish a BDCC staff position to coordinate the GMIN and initiate Windham County activities (see slide 53)
- ✓ Launch a series of igniter collision events, targeting specific prospects and interests (see slide 54)
  - One GMIN Startup Event per priority industry sector per year, including social entrepreneurship
  - Sponsor TED type talks attracting innovators and entrepreneurs
  - Enable and support addition informal social networks for entrepreneurs
  - Launch and annual Valley Innovation Network Entrepreneur of the Year Celebration
- ✓ Evaluate the current performance of regional co-working spaces, apply best practice operating standards and identify additional locations to expand town hubs for entrepreneurship.
- ✓ Build a five year implementation and funding plan to grow the GMIN to sustainability

Recommendation/Implementation Plan and Timeline

Mid-Term, within the two years –

- ✓ Define the Green Mountain Innovation Network value proposition, establish a “brand” and reinforce the message across the region and in all programs and activities.
- ✓ Regionalize activities through coordination of planning and programming that is attractive and moves people around the region
- ✓ Implement a GMIN regional business plan competition equal to LaunchVT
- ✓ Conduct a GMIN led market evaluation and feasibility analysis to launch a traditional style business accelerator with seed investment capability focused on the Valley Innovation Network
- ✓ Build a private, philanthropic, public sector GMIN Investment Pool
- ✓ Execute a GMIN strategic communication plan raising awareness and enthusiasm regionally and highlighting innovation and entrepreneurship to external markets in the Northeast.
- ✓ Create a Valley Innovation Network annual reporting mechanism to communicate progress, celebrate entrepreneurs and measure impact to local and external audiences.
- ✓ Implement a consistent and comprehensive business retention and expansion (BRE) program which includes a major focus on their opportunities around innovation and new lines of business.

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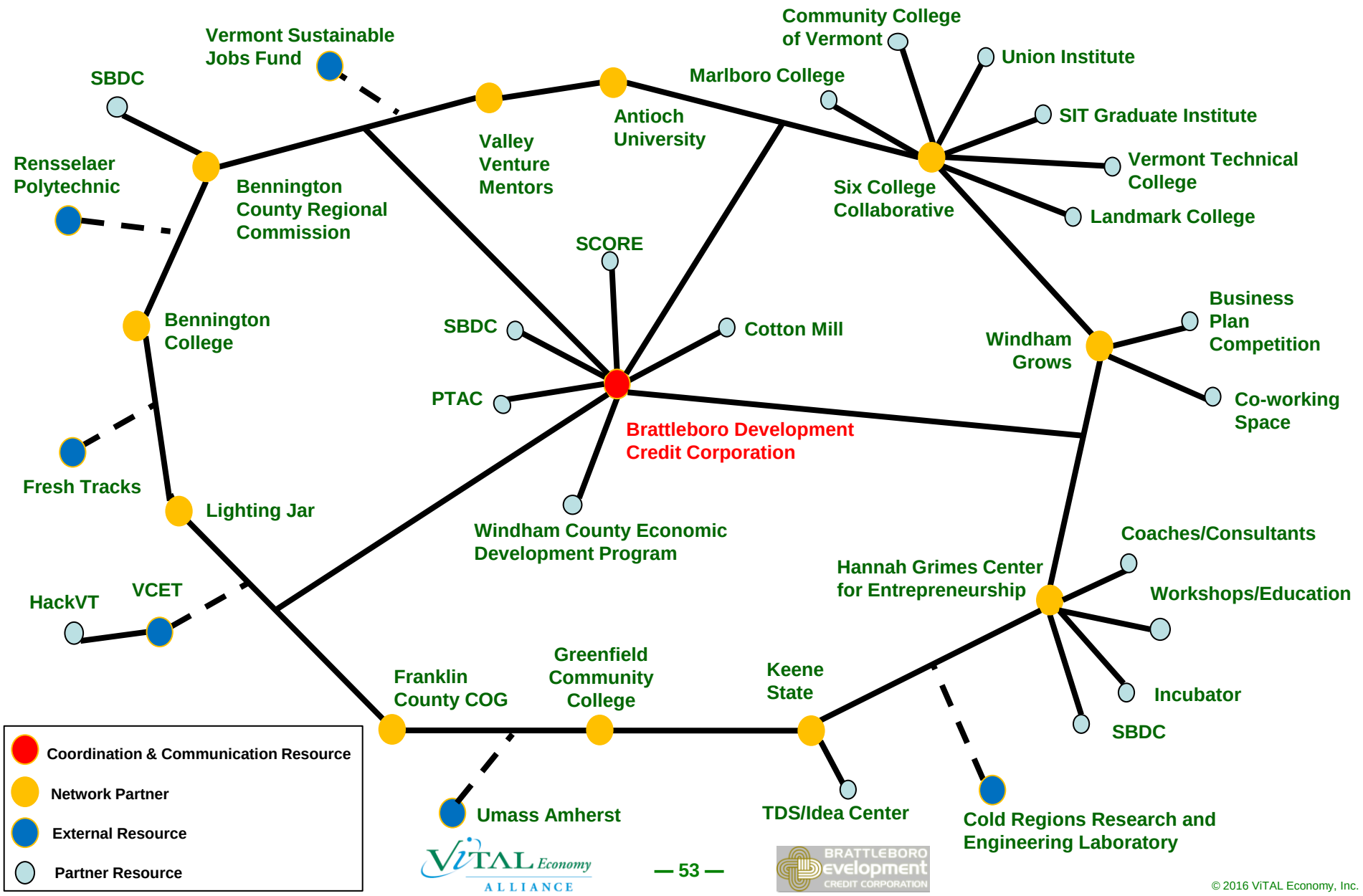
Green Mountain Innovation Network

Hybrid Spider/Starfish Design Model



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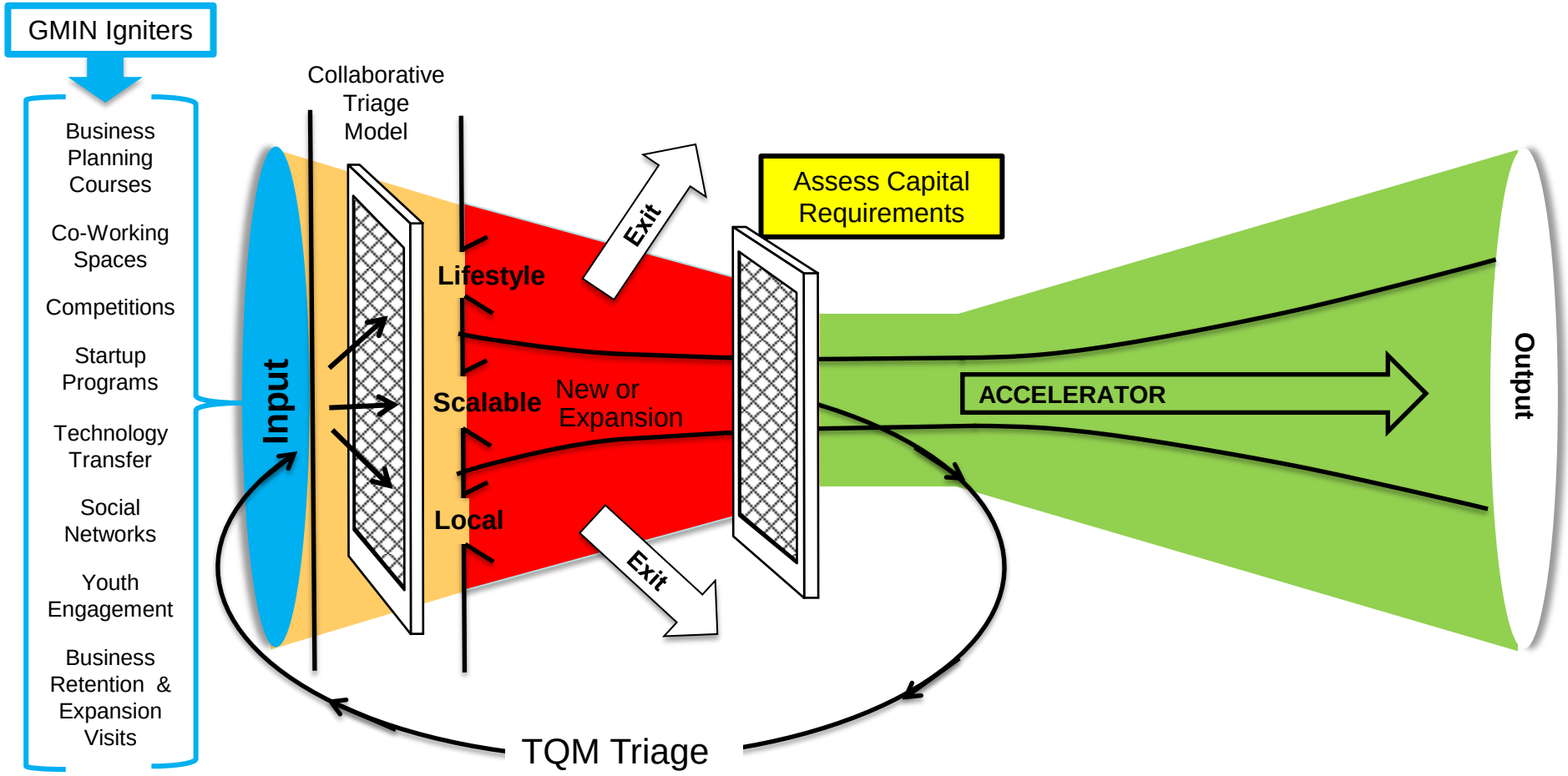
Green Mountain Innovation Network

A Regional Innovation Ecosystem Pipeline



Exit - Businesses or entrepreneurs separate from direct Ecosystem involvement and services, operating or taking an alternative direction.

Direct Support – Businesses and entrepreneurs are engaged in direct support services and programs provided by GMIN partners

Investment – Following involvement in GMIN support and programs, reaching a point for traditional and/or specialized investment.

TQM – Total Quality Management

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Appendix

- Project Interviews
- Research Bibliography

Project Interviews

- Michael Burnett, Executive Director, Windham Region Career Center
- David Bradbury, Executive Director, Vermont Center for Emerging Technologies
- Guy Payne, Sustainable Energy Outreach Network
- Carin Cross, FreshTracks Capital
- Rick Feldman, Valley Venture Mentors
- Peter Yost, Wingnut Test Facility
- Stephanie Huestis, People's United Bank
- Franklin Regional Council of Government, Staff
- Peggy Farabaugh, Founder, Vermont Woods Studio
- Paul Millman, Co-founder, Chroma Technology Corp.
- Caleb Clark, Marlboro College Graduate Center & Brattleboro Techies
- Ben Riseman, New Chapter
- Ed Metcalfe, Vermont Distilleries
- Chris Stromberg, Saxton River Distillery
- Debra Boudrieau, Windham County SBDC
- Bill Colvin, Bennington County Regional Planning
- Dimitri Garder, Executive VP, Global Z International, leader of the Lightening Jar
- Bennington Economic Development Partners
- Peter Nixon, Executive VP, FairPoint Communications

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