from business assistance to market expansion:

Helping Maine Firms Succeed in National and Global Markets

January 2011

A Case Study for Maine's 2010-11 Comprehensive Evaluation of State Investments in Research and Development

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I. INTRODUCTION

For the past five years, the annual evaluations of Maine's research and development investments have regularly included in-depth case studies designed to complement the quantitative results garnered through company and institutional reporting and innovation benchmarking. Past case studies have examined various aspects of Maine's innovation economy, covering diverse topics such as private R&D investments, trends in the composites sector, the role of Maine's technology associations, and technology transfer activities from Maine's universities and research laboratories.

These assessments, when combined with other research components of the annual R&D evaluation, have yielded a consistent pattern of results—at least when one examines how Maine-based technology businesses start and grow over time. Maine is a very entrepreneurial state. It has relatively high levels of self-employment and spawns a relatively high number of business start-ups. However, few Maine-based technology firms succeed in achieving rapid growth, becoming what analysts often call a gazelle company. Instead, Maine companies tend to start small and stay small.

> If Maine's entrepreneurs hope to achieve sustained rapid growth over the long term, they must capture markets outside of our region...

This year's R&D evaluation case study takes a deeper look at some aspects of this situation: why are so many Maine technology businesses failing to achieve rapid growth or to develop beyond the start-up phase? Numerous factors are at play. Some are tied to the overall weak economic conditions; some relate to the entrepreneur's own lack of needed skills or vision. However, several common threads do appear. Our past research suggests that too few Maine firms are aggressively seeking to enter national and global markets, and instead tend to rely on markets that are closer to home. While serving Maine businesses and consumers should be encouraged, a sole focus on markets in Maine (or Northern New England) places severe limits on a firm's growth potential. If Maine's entrepreneurs hope to achieve sustained rapid growth over the long term, they must capture markets outside of our region—in other parts of the US, and overseas. Where possible, this global outlook should be part of a new firm's culture at the outset. Even the newest start-ups should look beyond Maine for new markets and business opportunities.

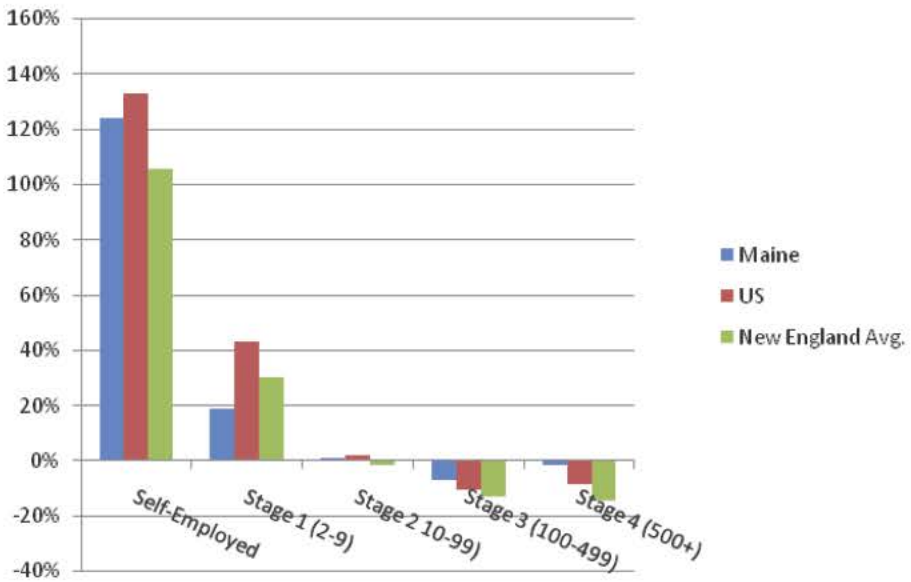
In this report, we offer analysis and recommendations for achieving these objectives. We first assess the current marketplace: how are Maine firms performing in export markets? We then take a deeper look at Maine firms that are paving the way, and winning contracts around the world. This analysis focuses on firms in two key technology sectors—advanced composites and engineering/environmental services—where a strong cohort of Maine entrepreneurs is showing the way. What can other Maine technology entrepreneurs learn from their experiences? Finally, we assess Maine's private and public infrastructure to support market expansion efforts. If a Maine-based entrepreneur seeks help in tackling new markets, where can she/he turn? Are the needed support efforts in place? If gaps exist, what can be done to remedy them?

II. WHAT EXPLAINS BUSINESS GROWTH PATTERNS AND WHY DOES IT MATTER?

A review of data on business growth patterns suggests that Maine-based firms lag both regional and national benchmarks. The National Establishment Time Series (NETS) database provides a longitudinal look at company growth rates. Using data from Dun & Bradstreet, NETS tracks changes in company growth and employment across five stages of growth: self-employment, firms with 2-9 employees (Stage 1), firms with 10-99 employees (Stage 2), firms with 100-499 employees (Stage 3), and firms with more than 500 employee (Stage 4).[1] The ability of firms to move across stages is an important indication of competitive strength. Maine, like most places across the US, spawns a high relative number of self-employment ventures and small Stage 1 ventures. But, as Figures 1 and 2 suggest, Maine's growth rates among these firms lag those of overall US average and the average for other New England states.

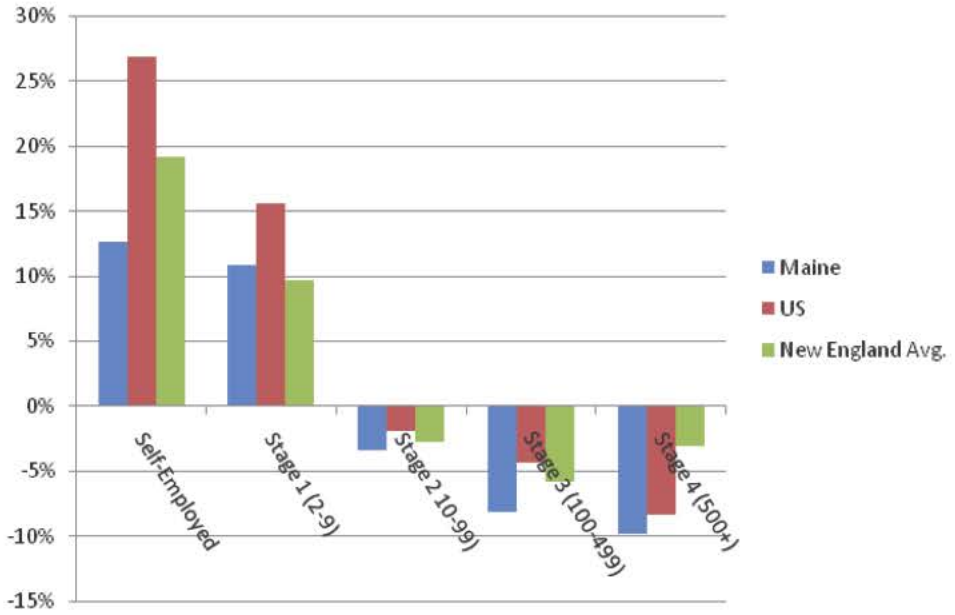
> The ability of firms to move across stages is an important indication of competitive strength.

Figure 1: Percentage Growth in Jobs Created by Business Size, 2000-2008



1 The NETS database has been compiled for public use by the Edward Lowe Foundation. Data can be accessed at www.youreconomy.org.

Figure 2: Percentage Growth in Jobs Created by Business Size, 2006-2008



Source for figures 1 and 2: www.youreconomy.org

Other data present similarly worrying signs about business growth in Maine. Maine ranks 40 out of 50 on the number of Deloitte Technology Fast 500 and Inc. 500 firms as a share of total firms.[2] Similarly, in the 2010 Inc. 500 and Inc. 5000 listings of America's fastest growing companies, Maine has only one firm listed in the top 500 (Portland's Listen Up Español ranked at number 27).[3] Overall, only twelve Maine firms have achieved listing on the 2010 Inc. 5000 list.

These patterns have a variety of causes, many of which are not unique to Maine. Many smaller states with larger rural populations face similar challenges. However, our past research has suggested that several factors may be especially important in explaining stagnating growth rates among some Maine-based technology firms. First, a relatively small portion of Maine's companies have developed large markets outside of Maine or outside of the US. Maine is a relatively small market, and a heavy reliance on serving Maine-based customers places natural limits on a firm's growth prospects. Therefore, Maine's economy is further hampered if and when local firms miss out on lucrative exporting opportunities. Recent research from the Brookings Institution highlights the many benefits that accrue to firms and to local economies that succeed in export markets.[4] Export oriented industries tend to pay higher wages and are also concentrated in manufacturing related sectors.

Data on state export performance bolster this contention that Maine firms are underperforming global markets. The 2010 State New Economy Index ranks Maine as 40th in the US on the extent to which the state's manufacturing and

2 Robert D. Atkinson and Scott M. Andes, The 2010 State New Economy Index, (Washington, DC: The Information Technology and Innovation Foundation, November 2010

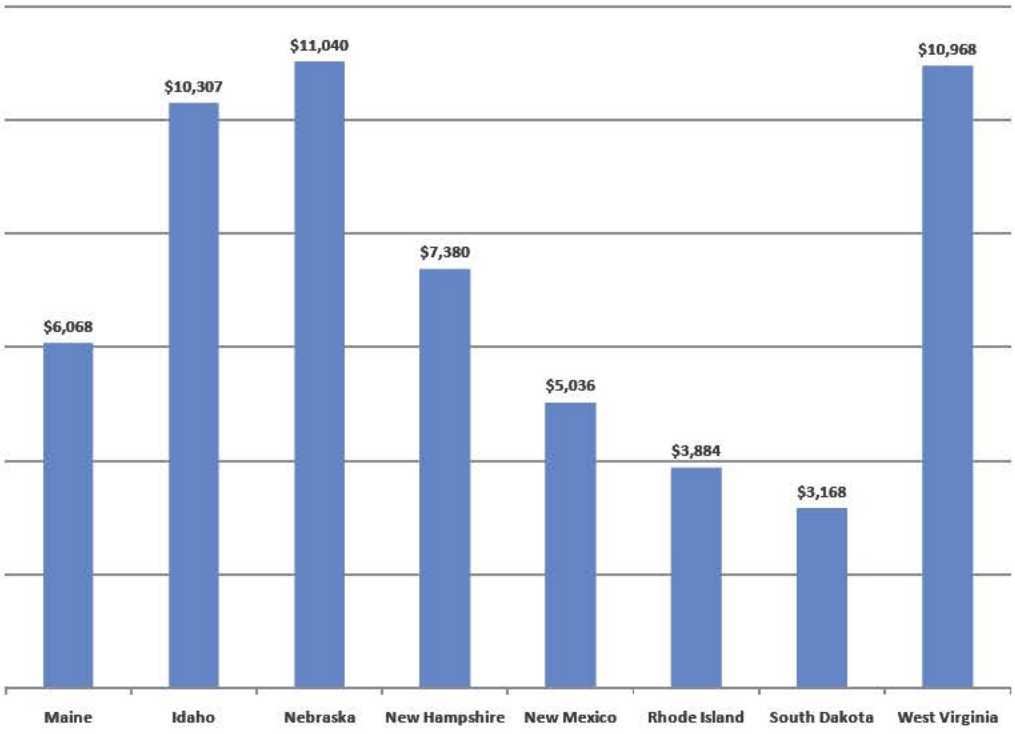
3 The 2010 Inc. 500 and Inc. 5000 listings can be accessed at http://www.inc.com/inc5000

4 Emilia Istrate, Jonathan Rothwell, and Bruce Katz, Export Nation: How U.S. Metros Lead National Export Growth and Boost Competitiveness, Brookings Institution Issue Brief, July 2010.

service workforce is employed producing goods and services for export. [5] On the flipside, Maine does appear to be a desirable location for foreign direct investment. The 2010 State New Economy Index ranks Maine 14th in the US on its assessment of the share of the workforce employed by foreign-owned companies.

In our past analyses, we have created benchmark comparisons for Maine with other states of a similar size and economic composition.[6] Several states fall into this category, including Idaho, Nebraska, New Hampshire, New Mexico, Rhode Island, South Dakota, and West Virginia. Maine exports valued more than $2.2 billion in 2009. As Figure 3 indicates, Maine's export levels from 2006-2009 on a per capita basis fall below total exports from Idaho, Nebraska, New Hampshire, and West Virginia but above New Mexico, Rhode Island, and South Dakota. Maine represents approximately .43% of the US population, yet only exports .23% of the nation's products, indicating Maine's export rate is approximately half of the US average. Detailed export data on Maine and the comparison states is contained in Appendix A.

Figure 3: Sum of 2006-2009 $ Value of Exports per Capita - Maine vs. Comparison States



Sources: Exports - "U.S. Exports by Origin State (Origin of Movement Series)", U.S. Census Bureau, http://www.census.gov/foreign-trade/statistics/state/data/index.html. Population - Sources: Annual Estimates of the Population for the United States and States, and for Puerto Rico: April 1, 2000 to July 1, 2009 (NST-EST2009-alldata), Population Division, U.S. Census Bureau, Release Date: December, 2009; http://www.census.gov/popest/estimates.php

5 Robert D. Atkinson and Scott M. Andes, The 2010 State New Economy Index, (Washington, DC: The Information Technology and Innovation Foundation, November 2010). p. 23.

6 Maine Comprehensive Economic Development Evaluation, 2008, Prepared for Maine Department of Community and Economic Development, March 2009.

Through our annual R&D evaluation process we ask recipients of R&D related state government programs to provide information on the location of their customers and key markets. As noted in Table 1, these results provide further indications of weak export performance. Eighty-eight percent of surveyed firms noted that they generate less than 10% of sales from foreign customers. The survey further suggests that Maine-based businesses are also failing to capture markets within the US itself. Sixty percent of respondents note that less than half of sales come from outside of Maine. Data from 2008-2009 indicate similar trends.

Table 1: US and International Sales from R&D Survey Respondents

Percent of Sales Outside Maine, in U.S.	All Respondents 2009-2010		All Respondents 2008-2009	
	Number	Percent	Number	Percent
0 - 10	137	46.3%	166	50.5%
11 - 25	13	4.4%	13	4.0%
26 - 50	27	9.1%	25	7.6%
51 - 75	27	9.1%	33	10.0%
76 - 100	92	31.1%	92	28.0%
Total	**296**	**100%**	**329**	**100%**

Percent of Sales Outside of U.S.	All Respondents 2009-2010		All Respondents 2008-2009	
	Number	Percent	Number	Percent
0 - 10	261	88.2%	285	86.6%
11 - 25	18	6.1%	19	5.8%
26 - 50	8	2.7%	13	4.0%
51 - 75	5	1.7%	5	1.5%
76 - 100	4	1.4%	6	1.8%
Total	**296**	**100%**	**328**	**100%**

Source: Maine Comprehensive Research & Development Evaluation, 2009-10

Stagnating firm growth rates and poor export performance are certainly not desirable outcomes for business owners, managers, or workers. They also produce significant challenges for the prosperity of all Mainers. Recent economic research suggests that gazelle businesses are the real drivers of prosperity. These firms, which represent a small portion of all companies, are the real drivers of innovation and prosperity in the American economy. High-growth firms, ventures that grow at consistent annual double-digit rates, tend to be more productive, more innovative, and

more successful. They start small, but, in the end, they make outsized contributions to local economic prosperity.[7] In fact, new research from the Kauffman Foundation finds that forty percent of all net new jobs are created by a small, select group that comprises only one percent of all young businesses.[8]

In addition to their direct economic impacts, the dearth of Maine-based gazelle businesses has other indirect effects. For example, faster growing firms have the capacity to provide better wages and better career ladders, which, in turn, create significant downstream economic benefits in terms of consumer buying power and other factors. Fast-growing firms also help attract new talent into the state. These newcomers can bring new ideas and new connections, which can then help build stronger linkages between Maine firms and other parts of country and the world. These connections have long been recognized in Maine. For example, the work of former Governor Baldacci's Creative Economy Council noted how the development of technology businesses was a critical component of attracting the "creative class" to Maine.[9]

7 Dane Stangler and Robert E. Litan, "Where Will the Jobs Come From?" Kauffman Foundation Research Series: Firm Formation and Economic Growth, November 2009.

8 Dane Stangler, "High Growth Firms and the Future of the American Economy," Kauffman Foundation Research Series: Firm Formation and Economic Growth, March 2010.

9 Reports and background on the Maine Creative Economy Council can be accessed at the Maine Arts Commission website at: http://mainearts.maine.gov/services_creative_economy.aspx

III. WHAT IS THE OPPORTUNITY?

The preceding sections of this report highlighted some of the negative repercussions of slow growth among Maine's entrepreneurial businesses. There is a flip side to this equation. Success in achieving faster growth, by breaking into new markets in the US and overseas, offers tremendous opportunities for Maine's entrepreneurs. At the most basic level, it makes sense to enter export markets because 95% of the world's potential customers are located outside of the US. Moreover, faster growing overseas markets represent major opportunities when our domestic economy remains in a slow recovery mode.

Other structural changes in the world economy have created an environment where potential opportunities, and, in reality, the necessity, of successful market expansion have rarely been so critical. The Maine economy has long been subject to the forces of globalization. As processes of globalization have evolved, businesses and industry sectors have similarly transformed how they do business. In the process, global value chains have emerged. This term refers to the "full range of activities that firms and workers do to bring a product from its conception to its end use and beyond."[10]

Value chains have always existed, but, today, these value chains are "global." Firms can access products, services, and technologies from around the world. At the simplest level, the outsourcing of call centers for large corporations can be viewed as part of a global value chain. But, more complex business value chains, such as the global network of firms involved in producing the Apple iPod or iPad, are increasingly common.[11]

To an increasing extent, business success today depends on a firm's ability to link into global value chains. There are multiple types of global value chains, and there are multiple types of strategies that firms can use to link into these networks. Managing value chains poses a huge challenge to large multinational corporations. The environment is even more challenging and complex for small and medium sized enterprises that often lack the resources and connections to break into global value chains.

While building these global connections can be a challenge, they are a necessity in today's business world. And, they generate real bottom line benefits. At the most basic level, this global business generates new sales, profits, and new jobs. Yet, exposure to global value chains can have other ripple effects. Through global supply chains, firms gain access to new knowledge and

10 See Global Value Chain Initiative website at www.globalvaluechains.org. There is a huge literature on global value chains. A sampling can also be accessed at this site.

11 See, for example, Greg Linden, Jason Detrick, and Kenneth L. Kraemer, Innovation and Job Creation in a Global Economy: The Case of Apple's I-Pod. University of California-Irvine Personal Computing Industry Center Working Paper, January 2009. Available at: http://pcic.merage.uci.edu/papers/2009/InnovationAndJobCreation.pdf

new skills. These new assets can be used to build new products or new services or to identify new customers and new markets for existing offerings.

This process of upgrading occurs on a regular basis in Maine and elsewhere. Recent developments in Maine's seafood industry illustrate this process. For example, Maine's sea urchins were traditionally viewed as a nuisance to local fishermen. Today, thanks to exposure to Japan's highly demanding seafood industry; Maine has developed a global reputation as a source for high quality sea urchin roe, or uni.[12] The history of Maine's lobster industry has followed a similar trajectory. Lobster has progressed from a product served to prisoners to a canned good to a delicacy regularly found in restaurants and supermarkets. New Maine-based firms like Hancock Gourmet Lobster and Linda Bean's Perfect Maine are advancing this process by adding further value, and developing new markets, with a variety of lobster based products.

Technology firms across Maine could benefit from similar exposure and success in national and global value chains. However, this is often easier said than done. Smaller firms, the bulk on Maine businesses, face challenges in entering global markets. They lack resources, capital, or access personnel with the necessary skills, such as foreign language fluency, needed to compete in world markets. These challenges will always exist for smaller firms, but they do not present insurmountable obstacles. Maine firms that are succeeding in world markets, and their experiences, may offer some useful lessons for other entrepreneurs and for policy makers seeking to strengthen Maine's business community.

12 Sharon Kiley Mack, "Maine Sea Urchins Making Slow Recovery," *Bangor Daily News,* October 7, 2009.

IV. UNDERSTANDING HOW MAINE FIRMS SUCCEED IN NEW MARKETS

In addition to our analysis of export data, we also interviewed a number of Maine-based firms who have enjoyed success in entering national and global value chains. We also interviewed other local stakeholders, such trade association leaders and staff at key agencies like the Maine International Trade Center (MITC). These interviews provided important insights and "how to" tips for success in global markets. We also used these interviews to assess how Maine's technology entrepreneurs are tapping into statewide support tools—from public sector agencies, trade associations, and private consultants—to assist in their market expansion efforts. While the interviews provide an incomplete picture of the state of Maine's exporters, the insights shared by Maine entrepreneurs offer a valuable qualitative addition to the data presented elsewhere in this study.

In an effort to control for unique circumstances facing specific industry sectors, we opted to focus our company interviews on firms in two of the state's technology clusters: advanced composites and engineering and environmental services. We targeted these two clusters for several reasons. First, firms operating in both clusters have been able to tap into global value chains and develop strong national and global business networks. Second, both clusters have developed strong statewide networks and have regularly accessed programs, such as those operated by Maine Technology Institute (MTI) and MITC that are the key partners in the annual R&D evaluation process. Finally, the two clusters provide us with a glimpse at firms that sell products, technologies, and services. Most discussions of exports and export promotion focus almost exclusively on manufacturing and product development. Yet, the export of services now accounts for the fastest growing share of US exports. In September 2010, US service exports were valued at $46.5 billion.[13]

These interviews helped to identify the networks and marketing channels that have been of value to the growth of Maine's technology firms. These interviews also helped to identify what the state is already doing that has benefited these firms and what else the state might do to accelerate the market expansion for Maine companies.

Our interviews focused on several key questions:

- How are successful Maine technology firms competing and winning in markets outside of Maine?
- How important is exporting/global connections to the start-up and growth of Maine technology companies?
- What kind of supply chains and networks do these firms utilize, support, and build?
- How do these firms invest in, develop, or tap into new product, process, or service innovations in their fields?
- What support services or tools do these firms need and which do they utilize?
- Is Maine's current policy and program mix providing effective and appropriate support for these companies? If not, what needs to change?

13 US Department of Commerce, Bureau of Economic Analysis, "US International Trade in Goods and Services, September 2010," Available at: http://www.bea.gov/newsreleases/international/trade/tradnewsrelease.htm

4.1 Common Themes for Market Expansion

In hindsight, it is relatively easy to recognize that our interviewed companies were "export-ready." The firms had "the drive, experience, financial resources, and capacity to successfully meet demand for (their) product (or service) in a foreign market."[14] The companies had clarity of vision, along with the skills to and competencies needed to succeed within global value chains.

Most firms followed their own unique approaches. If there was one common theme expressed by Maine's successful exporters, it was this: "It's not rocket science." Most entrepreneurs did not identify any secrets or special tricks that led to their success in global markets. Instead, they chalked it up to hard work, luck, and commitment to the process. In other words, company executives saw market expansion as critical to a firm's viability and success, and moved forward with a process to succeed.

Beginning the Process

Most interviewees used a simple method for expanding their markets—personal networking, and lots of it. Face to face contact, referrals, being active in organizations, attending civic functions, and similar activities were mentioned by almost everyone. Regardless of business size, their marketing model was based on getting their name out to potential clients.

In this regard, participation in trade shows and exhibitions was viewed as a critical part of the process. MITC's President, Janine Bisaillon-Cary, seconds this point. She contends that participation in trade shows is an "essential first step." Participation in trade shows allows business owners to "get their feet wet" without incurring major expenses. Trade shows provide a venue where they can meet new contacts, and learn some of the ins and outs of exporting. Nearly all of the interviewees first pursued global business opportunities via formal trade shows or conferences.

Extensive research validates this approach. A recent Oxford Economics study of the return on investment from business travel provided some important insights.[15] Overall, the research found that firms receive $12.50 in incremental value for every $1 invested in business travel. Trade shows were cited as a particularly effective tool, helping firms network, identify prospects, keep customers, and improve employee skills and knowledge. Half of surveyed business executives noted that they obtained anywhere from five to twenty percent of new customers via trade show participation.

Building Connections and Networks

Ultimately, success in the market will depend on whether a firm can provide a high-quality product, service, or technology. Successful Maine exporters pass that test, but also rely on some approaches based on their location in Maine. Many firms use their location in Maine as a key selling point. Comments included:

- "Because the state is small state, we inherently understand the importance of personal service;"
- "In Maine, we have learned to be innovative and can operate efficiently."

14 US Agency for International Development, "Best Practices in Determining Export Readiness," Washington, DC: US AID, 2010).

15 Oxford Economics USA, The Return on Investment of Business Travel. Report prepared for the US Travel Association, September 2009.

In essence, the companies we interviewed marketed their location in Maine as something that provides value and high customer service.

A number of the interviewees had taken advantage of various government programs designed to support market expansion efforts. This was especially true among composites firms who have been involved with a number of state-backed initiatives, including the North Star Alliance and several cluster-related initiatives backed by MTI and other state agencies. Composites firms also participated in active research partnerships with University of Maine's Advanced Structures and Composites Center. This participation, for the most part, was facilitated through industry groups, underscoring their importance as an intermediary in connecting companies to resources. A smaller number of service firms had tapped into these sources of support.

Many companies utilized government contracts and grants as a way to expand and build markets, especially those with new technologies. Companies noted that federal funding and/or state and local government contracts help to "legitimize" their business in the marketplace, and, provide a seal of quality for many potential customers. However, few interviewees pointed to federal funds or contracts as a quick path to success. Building connections with multiple federal agencies takes time and other states have begun to develop federal liaison programs to build sustained relationships with federal programs.

A more common approach to market expansions involved working though industry associations and professional trade groups. Almost without exception, companies belonged to multiple types of associations, each with a distinct value to their business. Key association partners took several forms:

- ***State associations focused on a single industry segment:*** This is the most common type of association and includes groups like Aquaculture Association of Maine or Maine Bioscience. Maine's environmental service companies are concentrated as member of E2Tech (www.e2tech.org), while many composite firms or composite companies belong to the Maine Composites Alliance (www.mainecompositesalliance.org). These networks were used for to keep up to date on local industry trends, in-state marketing and finding strategic partners or professional service providers.

- ***Industry associations that represent key markets:*** In many cases, firms join associations that represent their customers. For example, many composites companies belong to boat manufacturing groups or wind energy-related associations such as the Maine Wind Energy Initiative. Similarly, engineering services that specialized in municipal water systems often join associations for municipalities. These associations were critical for gaining access to potential clients and to market-specific trade shows. Having trade booths and getting speaking engagements at conferences were considered to be of high value to companies.

- ***Professional groups*** like engineering societies, societies for marine biologists, and others that provided companies and their employees with up to date information on specific fields of practice, and helped to build their reputation for domain expertise among peers. These associations were targets for speaking engagements and publications.

All of these association types tend to operate at the local, state, national, and even international levels. Successful Maine firms often engaged the groups at all levels with differing expectations for each group. Companies with markets outside of Maine thought of their in-state association as a means to keep current on issues and develop a local network of potential partners. They looked to the national organizations as the groups that provided entrée to new customers, partners, and suppliers.

Another snap shot of how well smaller firms and start-up companies are tapping networks can be illustrated by understanding how companies that utilize state supported R&D programs in Maine, like MTI or the university system, also utilize other organizations to build their networks.[16] As indicated in Table 2, among this subset of companies, more than 60% of businesses turn to other firms inside and outside of Maine for assistance, and 43% belong to a Maine trade or industry association. It is worth noting that these companies report higher usage and importance of relationships with out of state firms and associations than in-state ones. While activity in trade groups tends to increase as companies mature, even these early stage companies show the potential to actively use a network of companies for assistance.

Table 2: Usage Rates of Programs by Companies Using One or More State R&D Initiative

Support Organizations	2009-10 Penetration Rates	2008-09 Penetration Rates
MTI	82.7%	73.1%
Umaine System	60.9%	60.1%
Other Firms Outside Maine	62.6%	52.7%
Other Maine Firms	61.6%	51.9%
Maine Patent Program	44.9%	48.6%
Education/Research Outside Maine	46.9%	38.6%
Trade Associations Outside Maine	43.5%	38.6%
MSBDC	42.2%	42.7%
Maine Trade Associations	43.9%	43.8%
Other Educational Instutitions in Maine	31.0%	29.9%
MEP	32.0%	34.0%
Non-Profit Research Institutes in Maine	29.6%	29.3%
ATDC	22.4%	26.1%
Maine Procurement Technical Assistance Center	25.5%	25.3%

Source: Maine Comprehensive Research & Development Evaluation, 2009-10

16 Maine Comprehensive Research & Development Evaluation, 2009-10

4.2 Channels for Market Expansion

While the core strategy for market expansion via the development of strong networks was utilized by most interviewees, successful market expansion efforts tend to follow different paths depending on the product or service for sale or based on different target markets.

Market Expansion Based on Product/Service Type

According to interviewees, different marketing approaches and channels must be used depending on the value or quality of a given product or service. Was the firm selling a commodity driven or more specialized, unique, or niche product? For example, while both operate in the wood and wood products business, firms selling lumber utilize a much different marketing approach when compared to firms selling hand-crafted furniture.

- **Commodity-based:** These companies provided goods or services where there was little product differentiation among competitors in the end product. These companies compete in the market based on price, along with customer service. For engineering and environmental services, an example might be conducting a government mandated site assessment where a very specific set of issues are examined. Another example would be a project for installing drainage systems along roadsides. In the composites industry, many wood-based composite products, such as fiberboard or various laminates, are often marketing in a similar manner.

  In commodity-based markets, larger firms often have an inherent natural advantage. They are able to use economies of scale to drive down costs. And, as large retailers, like Home Depot and Wal-Mart, assume more important market positions, the drive to reduce costs becomes even more intense. For service firms, interest in international markets also varies by company size. Larger engineering firms expressed greater interest in pursuing international markets. Many smaller firms are hampered by their focus on domestic markets, where national or state regulation and standards are different than in other countries.

- **Specialized/niche products:** In both manufacturing and services, there are companies that compete on a very specialized set of skills or expertise, and where there are fewer competitors in the marketplace. This might be custom machining, composite blades for wind and tidal energy turbines, specialized wetland expertise, or other areas. Most current and prospective Maine exporters, and nearly all of the firms interviewed for this assessment, fall into this category.

  Marketing options are more varied for these products and services. While price can be a factor for these companies, the primary decision factors tend to be a combination of their reputation and past performance within their field, along with a distinctive business model (e.g. the degree of customization or innovation, the ease of doing business, etc.) These companies had more interest and/or existing opportunities in international markets.

  Often new goods and services can start as a specialized product and become more commodity-oriented as the market grows (e.g. renewable energy), while other specialized services have markets that are limited in size and are likely to stay as a niche product.

We found that commodity-based companies approached market development differently than specialty firms. Table 3 summarizes what each type of firms noted was important in their marketing of new business.

Table 3: Importance of Marketing Strategies by Type of Firm

	COMMODITY-BASED	SPECIALIZED
Competitive advantages	Price & Service	Performance & Innovation
Exposure & key exposure activities	Focuses on exposure to targeted client markets - Referrals by clients - Trade shows - Active participation in national organizations related to markets	Focuses on exposure as an expert within the field - Referrals by clients - Speaking engagements at professional conferences - Publications/ articles - Trade shows
Core Network	- Associations related to client markets (local and national) - Industry associations related to their segment (local and national)	- Professional trade associations - Associations related to client markets

4.3 Geographic Patterns for Growth

Marketing strategies also differ based on unique geographic patterns associated with their expansion. Some companies grew by radiating outward from their initial in-state markets into neighboring regions (e.g. growing from Maine to other New England states); while others had nationally dispersed markets from the beginning. In either case, companies viewed expansion into US markets as a precursor or companion strategy to international markets.

Firms that grew via radiating growth markets were active participants in local and regional industry associations related to their own industry and that of key client markets. To these firms, regional (multi-state) chapters were of high value. By comparison, companies that started with both in-state and out-of-state markets tended to be active in national organizations as opposed to regional or local chapters. These companies were also more likely to pursue international markets.

In practice, most expansion efforts were somewhat idiosyncratic. Sometimes, a strong personal connection led to a sale or strategic partnership. One firm owner noted that they linked up with a key partner, based in New Hampshire, while on a trade mission in France. In other cases, clear and logical partners emerge. For example, firms located in Northern Europe have been the primary outside partners for Maine's ongoing work in renewable energy. Similarly, close proximity to Canada suggests natural partnerships between Maine firms and their Canadian counterparts.

These differing patterns suggest that there is no one best way to succeed in export markets. But, it is important to recognize firms pursuing different approaches are likely to need different kinds of support and assistance from state agencies and private sector partners and service providers.

4.4 Summary of Interview Findings

Our series of interviews was designed to help provide insights into what has worked for smaller Maine firms as they seek to expand into wider national and global market. To summarize the input above, there are six factors that stood out as elements in companies with successful U.S. and international sales:

- **Export Readiness:** Company leaders must view export success as critical to a firm's viability and be willing to invest in the process.
- **Effective Use of Association Linkages:** Productive networks are those that connect local and state organizations to regional, national and international organizations.
- **Links to Multiple Networks:** Client networks are equally as important as a firm's own trade association.
- **Building Exposure is Key:** Like any marketing, the more hits or exposure to a target market, the greater the likelihood of success.
- **Federal/State Grants as Market Validators:** Grants and contracts with the federal or state government can help position a company in their marketplace and gain important traction for expansion.
- **Opportunity Driven:** Opportunities can be short-lived, and firms must act quickly to seize new customers or projects.

V. THE ROLE OF SUPPORT PROGRAMS

Manufacturers and professional service firms had different patterns of encounters with state programs. Only a handful of service-related companies we interviewed had used state programs to help them expand their markets. A few companies had applied to the states for business or innovation grants and fewer had received funding. Many companies noted the perception that state-supported innovation programs were more geared to helping universities (even those intended for private sector use appeared to companies as having a strong university bias). While this opinion was mainly based on perception, rather than actually experience with state programs, it still points out a potential disconnect between the state's intended use of programs and the private sector's perceived value—particularly as they relate to service businesses.

In contrast, a large proportion of composites firms utilized state programs, and expressed relatively high levels of satisfaction with their state partners. For example, composites manufacturers were much more likely to have worked with MITC than professional services companies to which we spoke. Service firms appeared to have the perception that MITC was geared more toward goods-producing firms. This perception may be a lack of information or outreach between MITC and industry groups representing professional service firms. Those companies that did work with MITC found value in their services and appreciated their role in helping to expand their market opportunities.

Across the country, states have established international trade centers to help companies increase exports. Maine firms looking to enter foreign markets, or to attract foreign investment can rely on assistance provided by the Maine International Trade Center (MITC). MITC was created in 1996, currently operates with a mix of public and private support, with roughly sixty percent of the MITC budget support coming from state investments.

MITC offers a wide range of program offerings to Maine-based businesses. These include:

- Market research and trade consulting
- Trade education programs
- Trade-related conferences such as Maine Trade Day
- Support for trade shows and missions
- Promotion of Foreign Direct Investment opportunities

The range and type of services provided by MITC are fairly typical and are similar to those offered in other states. However, because of severe budget constraints, MITC is unable to provide needed services to many potential customers or to develop new programming.

Together MITC along with the Maine Technology Institute (MTI) provide services to help Maine's technology companies increase their markets. In terms of supporting companies commercializing R&D, MITC provides a free one-year membership to any companies that have received a Development Award from the Maine Technology Institute. MTI Development Awards support R&D and the commercialization activities. Sales and marketing activities including those that are globally focused can be up to 15% of a Development Award. Furthermore, MTI Seed and Development Awards can be used to undertake market research that helps companies define global market opportunities. This includes support for attending trade shows.

MTI also supports industry efforts to expand trade nationally and internationally beyond the Development and Seed Grant Awards. MTI's Cluster Initiative Program provided support for the MITC *Invest in Maine* initiative. The Cluster program also supports industry associations such as Maine Built

Boats in their effort to showcase Maine's emerging ocean energy cluster at a global conference on ocean energy in March 2009.

With the purpose of better understanding the range of potential options, the research team opted to take a closer look at other state export promotion efforts across the US and in Canada. We developed profiles of four programs—in New Brunswick, Pennsylvania, Utah, and Washington—that have succeeded in introducing new export promotion and market expansion innovations that might be relevant to Maine and to MITC.

New Brunswick

Like leaders in most Canadian provinces, New Brunswick's business community recognizes that it cannot thrive without succeeding in the global marketplace. Canada's markets are generally too small to allow firms to focus solely on domestic business. As such, New Brunswick and other Canadian provinces place great emphasis, and invest insignificant resources in export promotion programs.

New Brunswick operates a host of market expansion programs. Many of these were developed and expanded under the provinces' International Strategy developed under previous Premiers, Bernard Lord and Shawn Graham.[17] This strategy envisioned a whole host of steps to better engage New Brunswick residents in the world economy, and it included a host of new trade and investment promotion efforts.

The Trade Assistance Program (TAP) is the lead offering of Business New Brunswick, the province's lead business development agency. TAP provides grants of up to $5,000 for firms to participate in trade shows, market reconnaissance, or after-sales support visits.

In addition to the many resources available at the provincial level, Canadian exporters can also tap into support from the Canadian Trade Commission,[18] which operates foreign missions akin to the US Foreign Commercial Service, and the Export Development Canada,[19] the Canadian counterpart to the US Export-Import Bank. Most recently, Canadian trade agencies have been placing great emphasis on linking small and medium-sized enterprises into global supply chains.[20] Canada invests significant resources in making the case for exporting as well, with Export Development Canada sponsoring a weekly podcast on international trade issues.

These efforts seem to be paying off for New Brunswick. According to the latest data from Export Development Canada, New Brunswick is projected to show the highest jump in export volume among Canadian provinces over the next year.[21]

17 New Brunswick's International Strategy http://leg-horizon.gnb.ca/e-repository/monograp hs/30000000048173/30000000048173.pdf http://www2.gnb.ca/content/dam/gnb/Departments/iga-aig/pdf/strategy-e.pdf

18 http://www.tradecommissioner.gc.ca/eng/home.jsp

19 http://www.edc.ca/english/index.htm

20 The Canadian Trade Commissioner Service, *Linking into Global Value Chains: A Guide for Small and Medium-Sized Businesses,* (Ottawa: The Canadian Trade Commissioner Service, 2010).

21 Export Development Canada, *The Moment of Truth: Global Export Forecast Summary 2010.* P.

Pennsylvania

Pennsylvania operates a wide variety of programs designed to expand international opportunities for the Commonwealth's businesses. Pennsylvania aggressively encourages local participation in international trade shows, and will provide up to $3,000 per firm via its Market Access Grant program. The state has also developed an on-line Virtual Trade Advisor where firms can identify potential overseas markets for their products and services.

In addition to the basic services of counseling, trade show sponsorship, and the like, Pennsylvania has also added some new twists to its trade promotion portfolio. Its Envoy program, begun in 2007, recently won a 2010 Innovation award from the US Economic Development Administration. The Envoy initiative provides exporters with a "virtual" sales representative in a given host country. Companies are matched with local firms who can provide on-the-ground representation on an as-needed basis. This allows exporters to avoid the extensive costs and hassles accompanying the establishment of a full-time on-site office in a target market.

Much of Pennsylvania's export promotion activity occurs via the statewide Regional Export Network, a series of ten local offices, often co-located with economic development agencies that provide a host of consulting and other trade support services. Each individual office provides a unique set of locally-tailored programs, while also easing firm access to state and Federal support tools.

Utah

Utah is another small state that has aggressively supported export promotion activities. Thanks to its large Mormon population and the Mormon practice of overseas missions, Utah has numerous global connections. Its former Governor, John Hunstman, now US Ambassador to China, was an especially strong advocate for international business development.

Utah's export promotion activities are supported by the Governor's Office of Economic Development (International Trade and Diplomacy Office), and the World Trade Center Utah, Utah's counterpart to MITC. In addition, Utah has also been home to the World Trade Association of Utah, which sponsors seminars and other education programs.

The Governor's office primarily manages trade missions and other higher-level activities. It also sponsors the Utah honorary consul program. This program, which covers thirty countries, appoints a local honorary consul who provides assistance to Utah residents who hail from the host country and also building bilateral closer ties for Utah business and residents. Maine operates a similar program via the World Affairs Council of Maine.

World Trade Center Utah is the state's primary source of international trade assistance. In addition to sponsoring trade shows and support export readiness programs, the Center also produces Global Utah Weekly, a weekly newsletter for local businesses.

Washington

The state of Washington has recently undertaken a major revitalization of its export promotion programs. Like Maine, Washington is strategically located to build close trade connections with Canada and overseas, especially Asian, markets. The state is aggressively seeking to capitalize on these assets. In June, Washington Governor Christine Gregoire unveiled a new series of programs, including $3 million of new investments to provide counseling to first time exporters and a new "Farm to Market Initiative" designed to help Washington agriculture firms

compete in global markets. Washington is also the first state to have developed a formal partnership with the US Department of Commerce for the purpose of improving the state's export performance.

These new investments helped back a series of grants to local projects covering a broad range of areas. For example, a project in Clarkston, WA, will work with a local boat builder's collaborative seeking to enter European export markets. Other projects will use new social media as part of Asian export strategy or provide counseling and technical assistance to first time exporters with a goal of creating "a culture of exporting,"

In addition to statewide resources, firms in Washington can also tap into a host of regional trade alliances. Examples include the Trade Development Alliance of Greater Seattle or the International Trade Alliance of Spokane. Finally, Washington has also invested in the Export Financing Assistance Center of Washington (www.efacw.org) which provides consulting and also helps local firms access Export-Import Bank finance programs.

Common Features

All of these programs share several common features. First, they provide intensive hands-on assistance. Second, the programs rely on relatively consistent funding streams that allow them to offer regular consistent programming that firms can easily access. Effective programs also recognize that small investments can pay big dividends. Support for trade show participation is a case in point. Many small business owners are reluctant to enter export markets because of uncertainty about the process or concerns about the costs of international travel. Small grants can make a huge difference in these cases where wavering business owners are calculating the costs and benefits of trade show or trade mission participation. However, once they see the benefits, more active pursuit of international markets is likely. Finally, and perhaps most importantly, each of these efforts is focused on creating a "culture of exporting," where all firms regularly think about global markets as a core part of their customer base.

VI. CAN MAINE CAPTURE THIS OPPORTUNITY?

While numerous data points suggest that the State of Maine and Maine-based businesses need to improve their engagement in larger national and global markets, many emerging trends suggest that Maine's entrepreneurs can succeed in this endeavor. At the most basic level, it has never been easier for smaller firms to compete and succeed in export markets. The cost of starting a business continues to drop, and the development of new business and information technology tools make international communications and connections easier than ever. New technologies like Skype and Google Translate simplify the process of communicating with foreign partners and customers. Meanwhile, the costs of international travel, while still substantial, are lower on a relative basis when compared to the past. Finally, the expanded global use of English as a basic language of business also provides competitive advantages to American firms.

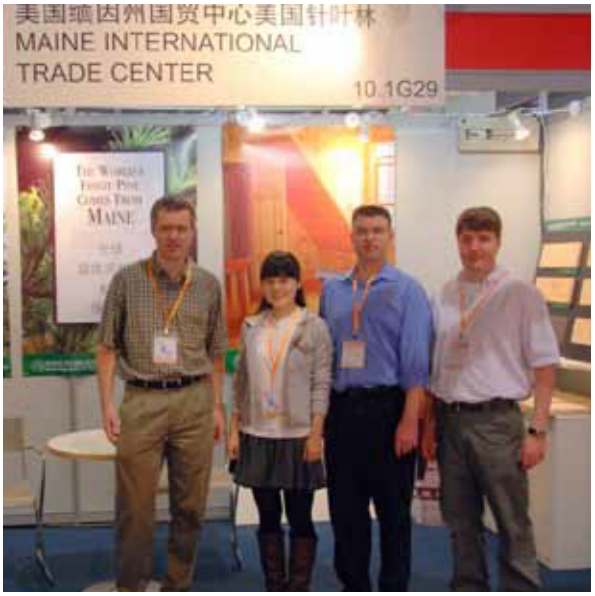
> ...it has never been easier for smaller firms to compete and succeed in export markets

Meanwhile, Maine's global exposure and connections are growing, albeit slowly. Many Maine entrepreneurs, like the firms interviewed as part of this project, are recognizing that they are global businesses from Day 1. If they hope to prosper and succeed over time, they need customers and partners outside of Maine and outside of the US. Maine is also emerging on the radar screens of international investors. In particular, Maine's renewable energy related assets are attracting interest from international partners. And, programs like MITC's new *Invest in Maine* effort are seeking to capitalize on this interest.

This early progress could be further hastened with focused action and support from state agencies, technology trade associations, and Maine businesses themselves. Below, we offer some recommendations on each of these fronts.

VII. RECOMMENDATIONS

7.1 For State Agencies



Expand Support for Trade Show Participation

As noted earlier, trade shows often serve as the "ice breaker" for firms considering export markets. Tradeshows can be an effective means to obtained leads for new markets and clients, yet travel costs and marketing efforts (e.g. booths) can be expensive and often are out of reach for small companies seeking to expand their market.

Many state export promotion programs help underwrite the cost of participating in trade shows. These funds could be used to underwrite booths and to support delegations to top trade shows like BIO, Medica, Pollutec and others. In these efforts, companies received exhibition space within the state's booth, a listing in the show catalogue/electronic media, exhibitor passes, and help from experienced trade specialists.

MITC understands the crucial importance of trade shows, and organizes Maine-based delegations to participate in several such exhibitions each year. In addition, the Governor's Office and DECD also provide some modest help to promote participation in trade shows. For example, the Maine Products Marketing Program helps firms participate in the Maine Made marketing campaign and also provides scholarships to firms attending the New England Products Trade Show. In addition, some firms have been able to utilize MTI funding to assist with expanding market penetration efforts. However, most observers note that, few agencies and entities eyond MITC are actively focused on this important activity.

Increasing tradeshow support, especially to technology sectors that have high economic impact to the state, is essential to help firms wanting to expand into new U.S. and global markets. Other states commonly provide small subsidies and provide technical assistance that help push firms to attend their first trade show, or to consider their first international visit. For example, Pennsylvania offers up $3,000 per year for trade show participation and provides trade expertise for businesses attending shows. Similar grant funds and assistance are also available in Iowa, Wisconsin, and many other states.

Increase State Marketing Efforts Outside of Maine Specifically for Technology and Innovation-Based Sectors

Many key Maine agencies maintain excellent websites and provide high-quality, user-friendly information about export opportunities and related issues. For example, MITC produces excellent newsletters, but some of these materials are only available to members.

A bigger challenge relates to the absence of any discussion or focus on market expansion and international trade on many of the other websites operated by various business service providers and economic development organizations around Maine. Typical websites might include a link to MITC or industry groups, but they contain very little other information on the importance of global markets or suggestions for learning how to compete globally. The case for international trade cannot be made solely by MITC and few of its partners; it must be pushed by all organizations concerned with assisting Maine's entrepreneurs, from regional and state economic development organizations to the state's traded sector associations.

State agencies, led by DECD, should examine how they can incorporate new technologies and new on-line marketing tools to create a more user-friendly means to learn about export and market expansion opportunities. At a minimum, current websites should be revised to include geographic reference to resources in a manner that is easy to use. Other states have linked resources into a graphic interface that can be used by in-state companies looking for out of state opportunities and by international and national companies looking for inward investment. One of the best examples of this is Pennsylvania's Regional Export Network. Using the state map, the website geographically shows the location of various industry clusters, highlights the innovation and top talent in the state, shows government assistance by region, illustrates distance to markets, and other information. A similar online regional outreach system should be considered in Maine.

While web and electronic information is critical, it needs to be a part of a cohesive marketing strategy to brand the state's high value technological and scientific assets in the same way the state markets its tourism and food products with public relations and media placement stories for Maine's technology sectors that is central to the state's brand and image development activity.

Use the Bully Pulpit

In today's tough budget environment, Maine's political leaders have limited resources to invest. However, they still do have access to the bully pulpit, and they should aggressively advocate for strengthening Maine's global connections across the board. Beyond export promotion, they can continue to support foreign language instruction and efforts like StudyMaine that seek to attract international students to Maine's colleges and universities.

In addition to talking the talk, Maine's leaders can promote a global perspective in other ways as well. For example, Maine's towns and cities should be encouraged to become more active in the Sister Cities International program. At present, only six Maine communities have developed sister city relationships. Programs like those sponsored by the World Affairs Council of Maine should be expanded and supported. Finally, existing consultative bodies like Maine's Citizen Trade Policy Committee should be encouraged to also look at the benefits that can accrue to Maine via improved export performance. As currently structured, the Commission has largely focused on the negative local consequences of international trade. While these issues warrant attention, the flipside of global engagement—via export opportunities—should also be analyzed.

Link Market Expansion to Ongoing Technology Development Initiatives

Maine is presently home to a host of programs that help emerging ventures develop and commercialize new technologies. The many programs operated by MTI have provided critical support to Maine's technology sectors. Similarly, the Maine Center for Entrepreneurial Development's Top Gun program and the Innovation Engineering efforts sponsored by the University of Maine are similarly focused on grooming a new generation of entrepreneurs. All of these laudable efforts focus on issues of company formation and development, and should be supplemented by a deeper focus on market expansion.

Additional technical assistance and education is needed to help companies not only understand outside market opportunities, but help develop the business operations that will allow the firm to compete in export markets. Robust financial capacities, multimodal logistics expertise, volume manufacturing systems, and a nationally savvy sales force are examples of the operational capabilities that companies may need to be successful in growing revenues from outside markets.

In addition, more can be done to help technology companies identify U.S. markets and better connect with federal funding. Some companies we interviewed targeted international markets, yet many more targeted national markets as a first step for expansion. While international trade centers offer market research and advisory services for international export development, the equivalent for national markets is much less formalized. For example, the Maine International Trade Center has multiple databases to help Maine companies locate international companies, yet this same level of database support for finding key US companies and geographic markets is not available. While state and regional economic development agencies have access to multiple databases of US companies, and use them for generating leads for their own recruitment purposes, very few organizations use the information to help resident companies gain insight on potential markets outside the state. With little additional funds, Maine economic agencies and industry organizations could enhance information and assistance with market expansion efforts.

For some sectors and companies, the government can provide market opportunities. Agencies such as the Department of Defense, Department of Energy, the Environmental Protection Agency, the US Department of Agriculture and others have an array of programs that create direct contract opportunities for companies. Knowing the details of these programs and establishing contact and working relationships with agency staff (not congressional delegation) is necessary if Maine companies are to seize opportunities provided by these agencies. While many states, including Maine operate a procurement center to help companies find federal contracts and awards, other states also have active federal liaison programs that proactively seek federal opportunities and then work with procurement centers and other resources to reach the companies that could take advantage of these opportunities.

MITC has also developed close partnerships with many key Federal programs, such as the US Commercial Service which has placed a representative at MITC's Portland offices. But, MITC, or other local agencies, should seek similar partnerships with other Federal agencies. At present, no Maine-based organization is part of the City/State Partners Initiatives operated by the US Ex-Im Bank. This partnership could be utilized to expand local awareness and access to Ex-Im bank financing tools and support.

At present, no Maine-based organization is part of the City/State Partners Initiatives operated by the US Ex-Im Bank.

Maine Diplomats Program

Key state agencies should also examine other means to get Maine's brand better understood in the global marketplace. One tool for this effort might involve creation of a Maine Diplomats program, where local residents and industry leaders, and others with deep ties to Maine, are engaged in an effort to expand networks and business opportunities for Maine-based businesses.

Several US states operate programs of this type. For example, the Nebraska Diplomats program is structured as an independent non-profit entity with links to the state's Department of Economic Development. At present, more than

475 Nebraska Diplomats are enrolled in a program where they agree to meet with economic development prospects and also to help promote the state as a great place to do business.

A more expansive model has been attempted with Scotland's Global Scot effort. Global Scot seeks to create a global network of business leaders with interest and engagement in supporting business development in Scotland. More than 500 high level business executives around the globe are now part of the Global Scot Network. Many of these members are expatriate Scots, yet a large portion have ties to Scotland based on ancestry or simply personal interest. Given the strong affection for Maine among many Americans, the development of a similar network for Maine appears feasible.

Maine's ports provide a hugely important potential competitive advantage for the state's exporters

Get the Basics Right

Finally, state officials and leaders need to remember that their most important task involves getting the fundamentals right. This involves continued efforts to improve Maine's business climate, but it also involves continuing critical state investments in technology and R&D. These investments are critically important for Maine's smaller firms. Recent research suggests that R&D intensive firms are more likely to succeed in export markets. In fact, November 2009 Canadian study found that smaller firms that perform in-house R&D were twice as likely to export as similar firms not engaged in R&D.

Similarly, the state must continue to make critical investments in its ports and other logistics related infrastructure. In particular, Maine's ports provide a hugely important potential competitive advantage for the state's exporters.

7.2 For Technology Associations

State agencies cannot act alone; they need to continue developing close partnerships with key technology associations. As noted above, these groups serve as critical bridge as Maine firms make the leap into national and global markets. In addition to their ongoing work, technology associations might also expand current offerings to further instill the message that going global is, as one interviewee noted, "the difference between success and failure." Several steps might be considered:

Be a Promoter of Exporting and a Facilitator for Services and Programs

Industry associations tend to be the voice of the sectors that they represent. Members look to them for information on new trends and for education on best practices. The basics of exporting and the value of selling to U.S. and international markets is an important education component that can be reinforced by industry groups. In addition to the education programs already in place, there are a several suggestions from interviews that would enhance the value these groups can provide to their membership.

The state, federal government and private groups have an array of services that can assist companies within various industry sectors. While many trade associations offer educational workshops or speakers on exporting or selling out of state, more can be done. Many government or trade assistance program may try to reach businesses one by one and trade associations can offer these organizations a way to wholesale or act as an intermediary to reach their memberships.

Another way associations can help their membership is by finding market issues that cross other trade groups and work collaboratively. Maine's composite and energy sectors are working together through the Wind Energy Initiative. This project is an example of connecting to federal resources as well as national (and international) markets.

Embrace International Partnerships

US-based cluster and technology associations have been relatively slow in terms of developing international partnerships and connections, but this pattern seems to be changing. Many technology associations across the US are beginning to develop formal partnership and collaborations with overseas partners. A similar process is occurring in the business incubation industry with the development of Soft Landing programs that provide space and technical assistance to foreign firms entering US markets or US firms moving overseas.

In the Pacific Northwest, states of Washington and Oregon partner with British Columbia on developing alliances and trade partnerships to promote sustainable products and service. Provinces in Atlantic Canada may represent a natural partner for some Maine-based associations. For example, Tech Southeast is a relatively new cluster organization located in Moncton, New Brunswick. It focuses on supporting technology and life science firms in the province, and could serve as a potential partner for related organizations in Maine. Similar efforts could be built around recent bilateral agreements to improve arts and cultural exchange between Maine and Atlantic Canada.

MITC's new *Invest in Maine* initiative also offers potential in this area. This project is working to build closer global connections and to attract foreign investment in critical industry sectors such as advanced materials and renewable energy.

Increase exposure to targeted clients

International companies seeking strategic partners in the US, as well as national companies seeking to expand geographic markets or products, are often looking for specific expertise or talent. Profiling Maine's talent, as well as companies, can help build awareness within the markets that serve the state's targeted industries.

In Oklahoma, the state's nonprofit innovation organization works with industry associations, regional chambers, and the state Department of Commerce to place media stories about award-winning talent in science and technology industries. Oregon government and industry groups worked together to market the fact that the region was home to the world's top Open Source talent; helping to grow an emerging market for the software industry and differentiate it from Seattle.

Since the internet provides an almost unlimited ability to search for specific interests, Maine's economic development agencies, industry associations, groups like MTI and others should use their websites, newsletters and blogs to continually highlight the awards to and publications and speaking engagements from Maine's professional talent.

7.3 For Firms

Our recommendations to firms are very succinct: Think globally from the start. If you are operating a business in Maine and hope to continue growing over time, you will most likely need to succeed in markets outside of New England. While market expansion may not occur overnight, it is never too soon to plan ahead and to prepare your company to be "export ready." The best way to do so is to get engaged in trade associations, and to participate in networking groups and support organizations like MITC. These activities will expose your business to more customers, expose your management and workers to new ideas, and will help smooth the path as you enter the global marketplace.

7.4 Bottom Line

If Maine is to help its companies grow then the goal should be to get companies thinking about U.S. and global sales from the start, and while this is primarily the responsibility of the business, the support from trade associations, government programs and others are critical in removing the barriers and accelerating their results.

APPENDICES

APPENDIX A – Export Trends

APPENDIX B - Data on Support Organizations from Annual R&D Survey

APPENDIX C - Interviews Conducted

Appendix A: Export Trends

Value of Exports - Maine vs. Comparative States

States of Similar Population	2007 Exports in Millions $	2008 Exports in Millions $	2009 Exports in Millions $	% Chng 2007-2009 Exports	2006-2009 Sum of Exports in Millions $	2009 Population in Millions	2009 % of US population	2006-2009 Sum % of US Exports	2006-2009 $ export per capita	2009 % of Exports represented by top 25 commodities
Maine	2,750	3,016	2,231	-18.87%	7,997	1.318	0.43%	0.23%	$6,068	70%
Idaho	4,703	5,005	3,877	-17.56%	13,585	1.546	0.50%	0.39%	$10,307	77%
Nebraska	4,266	5,412	4,873	14.23%	14,551	1.797	0.59%	0.42%	$11,040	62%
New Hampshire	2,914	3,752	3,061	5.04%	9,727	1.325	0.43%	0.28%	$7,380	45%
New Mexico	2,585	2,783	1,270	-50.87%	6,638	2.010	0.65%	0.19%	$5,036	49%
Rhode Island	1,649	1,974	1,496	-9.28%	5,119	1.053	0.34%	0.15%	$3,884	54%
South Dakota	1,510	1,654	1,011	-33.05%	4,175	0.812	0.26%	0.12%	$3,168	64%
West Virginia	3,987	5,643	4,826	21.04%	14,456	1.820	0.59%	0.41%	$10,968	78%
U.S.	1,148,198	1,287,442	1,056,043	-8.03%	3,491,683	307.007	100.00%	100.00%	$2,649,228	

Sources: Exports - "U.S. Exports by Origin State (Origin of Movement Series)", U.S. Census Bureau, http://www.census.gov/foreign-trade/statistics/state/data/index.html. Population - Sources: Annual Estimates of the Population for the United States and States, and for Puerto Rico: April 1, 2000 to July 1, 2009 (NST-EST2009-alldata), Population Division, U.S. Census Bureau, Release Date: December, 2009; http://www.census.gov/popest/estimates.php

Exports from Maine Companies by Country

Rank	Country	2006 $ in Millions	2009 $ in Millions	2009 % of State	2006-2009 % Change
Rank	**Total Top 25 Countries**	**2,491**	**2,100**	**94.1**	**-16%**
1	Canada	937	858	38.5	-8%
2	Malaysia	673	348	15.6	-48%
3	China	153	175	7.9	14%
4	Japan	129	101	4.5	-22%
5	Saudi Arabia	3	66	3	2100%
6	France	35	64	2.9	83%
7	Korea, South	112	52	2.3	-54%
8	Ukraine	1	51	2.3	5000%
9	Netherlands	50	49	2.2	-2%
10	Mexico	41	43	1.9	5%
11	Belgium	45	39	1.7	-13%
12	Switzerland	4	33	1.5	725%
13	United Kingdom	46	32	1.4	-30%
14	Australia	31	29	1.3	-6%
15	Federal Republic Of Germany	30	29	1.3	-3%
16	United Arab Emirates	8	21	0.9	163%
17	Brazil	22	18	0.8	-18%
18	Hong Kong	37	16	0.7	-57%
19	Singapore	25	12	0.6	-52%
20	Finland	8	12	0.5	50%
21	Italy	36	11	0.5	-69%
22	India	12	11	0.5	-8%
23	Sweden	11	10	0.4	-9%
24	Taiwan	31	9	0.4	-71%
25	Turkey	9	9	0.4	0%
	Total Maine Exports And % Share Of U.S. Total	**2,642**	**2,231**	**0.2**	**-16%**

Source: "U.S. Exports by Origin State (Origin of Movement Series)", U.S. Census Bureau, http://www.census.gov/foreign-trade/statistics/state/data/index.html

Exports from Maine Companies by Commodity

Rank	Code	Description	2006 $ in Millions	2009 $ in Millions	2006 % Share of Maine	2009 % Share of Maine	2006-09 % Change
		Total MAINE Exports and % Share of U.S. Total	**2,642**	**2,231**	**0.3**	**0.2**	**-16%**
		Total, Top 25 Commodities and % Share of State Total	**1,051**	**1,563**	**39.8**	**70**	**49%**
1	854239	ELECTRONIC INTEGRATED CIRCUITS, NESOI	1	227	0	10.2	22600%
2	880000	CIVILIAN AIRCRAFT, ENGINES, AND PARTS	37	164	1.4	7.3	343%
3	481013	PPR/PBRD FOR WRIT/PRING,CLAY CTD,<=10%MEC FBR,RLS	83	141	3.2	6.3	70%
4	470329	CHEM WOODPULP, SODA ETC, N DIS S BL & BL NONCONIF	251	134	9.5	6	-47%
5	870324	PASS VEH SPK-IG INT COM RCPR P ENG > 3000 CC	4	112	0.1	5	2700%
6	30622	LOBSTERS, LIVE, FRESH,CH, DRIED, SALTD OR IN BRINE	147	110	5.6	4.9	-25%
7	440320	CONIFEROUS WOOD IN THE ROUGH, NOT TREATED	158	104	6	4.7	-34%
8	481190	PAPER, PAPERBD, CELLULOSE WADD ETC, COAT ETC NESOI	90	93	3.4	4.2	3%
9	854233	AMPLIFIERS, ELECTRONIC INTEGRATED CIRCUITS	1	60	0	2.7	5900%
10	854231	PROCESSORS AND CONTROLLERS, ELECTRONIC INTEG CIRCT	1	55	0	2.5	5400%
11	382200	COMPOSITE DIAGNOSTIC/LAB REAGENTS, EXC PHARMACEUT	50	42	1.9	1.9	-16%
12	440399	NONCONIFEROUS WOOD IN THE ROUGH NESOI, NOT TREAT	40	35	1.5	1.6	-13%
13	30212	SALMON, PAC, ATL & DANUBE, WITH BONES, FR OR CHILL	16	34	0.6	1.5	113%
14	902750	INSTRUMENTS ETC USING OPTICAL RADIATIONS NESOI	11	29	0.4	1.3	164%
15	200410	POTATOES, PREPARED ETC., NO VINEGAR ETC., FROZEN	9	25	0.4	1.1	178%
16	160232	PREPARED OR PRESERVED CHICKEN MEAT OR OFFAL, NESOI	20	24	0.7	1.1	20%
17	841199	GAS TURBINE PARTS NESOI	8	24	0.3	1.1	200%
18	440710	CONIFEROUS WOOD SAWN, SLICED ETC, OVER 6 MM THICK	26	23	1	1	-12%
19	81040	CRANBERRIES, BLUEBERRIES, ETC, FRESH	10	20	0.4	0.9	100%
20	440121	WOOD IN CHIPS OR PARTICLES, CONIFEROUS	20	20	0.8	0.9	0%
21	30791	MOLLUSCS ETC NESOI, LIVE, FRESH OR CHILLED	16	20	0.6	0.9	25%
22	381800	CHEM ELEM DOPED, USED IN ELECTRON, DISCS WAFERS ET	29	19	1.1	0.9	-34%
23	930190	MILITARY WEAPONS,OTH THN REVOL,PIST,&HD 9307,NESOI	6	17	0.2	0.7	183%
24	470692	CHEMICAL PULP OF FIBROUS CELLULOSIC MATERIAL NESOI	10	15	0.4	0.7	50%
25	481029	PPR/PBRD EX LIT-WGH WRITNG ETC CLAY CTD OV 10% MEC	8	15	0.3	0.7	88%

Source: "U.S. Exports by Origin State (Origin of Movement Series)", U.S. Census Bureau, http://www.census.gov/foreign-trade/statistics/state/data/index.html

Appendix B: Data on Support Organizations from Annual R&D Survey

The tables below show the support organizations that were used and a ranking of how important the services were to the participating companies (1 = 'completely unimportant', to 5 = 'critically important').

Approximately 82% of the 294 respondents who answered this question in the 2009-2010 survey received some level of support from MTI during the survey period. This percentage showed an increase from the 2008-2009 survey (in which there were 368 respondents who answered this question) of approximately 9% from 73%. More than 56% of those recipients in the current survey year found the assistance to be 'critically important', compared to more than 53% in the 2008-2009 survey year. Additionally, MTI received the highest mean score at 4.13 in the current year. MTI also received the highest mean score in the previous survey year at 4.13.

	All Respondents 2009-2010						
	Degree of Importance						
Support Organizations	Didn't Use	1	2	3	4	5	Mean Score
MTI	51	9	16	32	49	137	4.19
Umaine System	115	14	19	42	41	63	3.67
Other Firms Outside Maine	110	12	26	58	45	43	3.44
Other Maine Firms	113	11	34	46	52	38	3.40
Maine Patent Program	162	16	27	23	22	44	3.39
Education/Research Outside Maine	156	15	22	36	32	33	3.33
Trade Associations Outside Maine	166	15	29	37	25	22	3.08
MSBDC	170	21	23	31	25	24	3.06
Maine Trade Associations	165	20	25	39	23	22	3.02
Other Educational Instutitions in Maine	203	12	21	33	12	13	2.92
MEP	200	19	18	28	16	13	2.85
Non-Profit Research Institutes in Maine	207	17	16	19	3	14	2.85
ATDC	228	14	16	19	3	14	2.80
Maine Procurement Technical Assistance Center	219	17	19	13	18	8	2.75

Support Organizations	All Respondents 2008-2009						
	Degree of Importance						
	Didn't Use	1	2	3	4	5	Mean Score
MTI	99	11	19	39	55	145	4.13
Umaine System	189	26	27	19	33	74	3.57
Other Firms Outside Maine	147	21	33	53	38	76	3.52
Other Maine Firms	174	12	42	45	58	37	3.34
Maine Patent Program	177	21	32	54	43	41	3.27
Education/Research Outside Maine	226	20	24	42	40	16	3.06
Trade Associations Outside Maine	226	25	27	36	24	30	3.05
MSBDC	211	37	28	32	23	37	2.97
Maine Trade Associations	243	26	28	30	18	23	2.87
Other Educational Instutitions in Maine	272	21	19	26	12	18	2.86
MEP	258	14	35	32	13	16	2.84
Non-Profit Research Institutes in Maine	260	17	33	27	15	16	2.81
ATDC	207	26	47	45	25	18	2.76
Maine Procurement Technical Assistance Center	275	24	29	16	10	14	2.58

Note:

MTI: Maine Technology Institute

ATDC: Advanced Technology Development Centers

MSBDC: Maine Small Business Development Centers

MEP: Manufacturing Extension Partnership

Source: Maine Comprehensive Research & Development Evaluation, 2009-10

Appendix C: Interviews Conducted for this Case Study

Jim Atwell, Sevee Maher Engineers
Janine Bisaillon-Cary, Maine International Trade Center
Annette Bossler, *Invest In Maine* Initiative, Maine International Trade Center
Bryan Bozsik, Maine International Trade Center
John Burns, Small Enterprise Growth Fund
Scott Collins, St. Germain Collins
Phil Coupe, President, ReVision Energy
Habib Dagher, University of Maine Advanced Structures and Composites Center
Gordon Davis, Maine Technology Centers
Dutch Dresser, Maine Energy Systems, LLC
Jonathan Edgerton, Wright Pierce
John Ferland, Ocean Renewable Power Company
Martin Grimnes, Harbor Technologies Inc.
Steve Hassett, Custom Composites Technology
Kirk Hill, Maine Entrepreneurs
Karl Hoose, Applied Thermal Sciences
George Kendrick, Stantec Consulting Services
Joe NeSmith, SRD Corporation
Perry Newman, Atlantica Group LLC
David N. Packhem, Jr., Hodgdon Defense Composites
Kenneth Priest, Kenway Corporation
Elizabeth Quilan, LaCapra
Laura Sawall, International WoodFuels
Thomas Schwarm, Acadia Environmental Technology
Samuel C. Townsend, E2 Tech Council
Steve Von Vogt, Maine Composites Alliance
Jake Ward, University of Maine