

GENERAL INFORMATION

Why Does MTI Fund the Development of Clusters?

The Maine Technology Institute (MTI) was created by the State Legislature in 1999 to “encourage, promote, stimulate and support research and development activity leading to the commercialization of new products and services in the State’s technology-intensive industrial sectors to enhance the competitive position of those sectors and increase the likelihood that one or more of the sectors will support clusters of industrial activity and to create new jobs for Maine people” (5 MRSA c. 407).

What is a Cluster?

A technology cluster is a grouping of industries that typically shares common supply chains, markets and technology competencies or knowledge. Clusters are grouped around technology-related industry drivers and provide a state its unique competitive advantages. Common examples of technology clusters are California’s Silicon Valley information technology cluster and Maine’s marine trades cluster. Strong clusters have common characteristics:

- **Concentrations of companies** that serve similar customers and draw on similar knowledge and specialized workers to develop innovative products and services.
- Companies in the cluster are mutually **supported by organizations** such as specialized suppliers, industry-knowledgeable universities, trade associations, legal and financial experts, funding sources and government agencies.
- The companies derive **competitive advantages** in the marketplace from a range of activities and **sharing of knowledge** across the cluster (e.g. supply-chain development, market intelligence, business incubator services, attraction of capital, management training, joint R&D, technical standard setting).

The following factors influence the development and strength of clusters in a region¹:

- Unlike industrial sectors, clusters are defined by knowledge generation and knowledge spillovers, the transmission of information among the elements of the cluster. Clusters are thus defined not necessarily by what products are made, but the knowledge and skills that reside or are developed within a region.
- Geography is important but the exact borders of the region where knowledge and skills matter are highly variable; there is no single size of region that encompasses a cluster.
- Innovative organizations like universities, research laboratories, and the R&D centers of private firms are important; and how these organizations interact and share knowledge with one another is critical to cluster development. These interactions occur in networks,

¹*Executive Summary/ Maine’s Technology Sectors and Clusters: Status and Strategy/March 2008*

which make the transmission of both explicit and tacit information much more likely. Explicit information is the type shared through publications, meetings, etc. Implicit knowledge is the “shop floor” knowledge communicated as employees shift jobs.

- Entrepreneurship links research and innovation to the market. Connections with organizations that spur entrepreneurship such financing, technical assistance, or specialized services (such as intellectual property protection specialists) within the region strengthen the cluster and make commercial success more likely.
- Size matters. Innovation is inherently risky. Most ideas will fail, so economic success is always easier in regions with large concentrations of research and innovation activities. Moving knowledge around also requires sufficient number of organizations and institutions (actually sufficient numbers of people) that knowledge generation and commercial success become self-sustaining.
- Strong technology clusters contribute to company growth that in turn leads to the creation and retention of good jobs.

Maine’s Industry Clusters

In 2013, MTI commissioned an updated analysis of Maine’s Technology Clusters in a report titled *Re-Examining Maine’s Economic Position, Innovation Ecosystem and Prospects for Growth in Its Technology-Intensive Industry Clusters*. The full report can be found at:

www.mainetechnology.org/docs/Full_Report-Maine-Innovation-Ecosystem_final5.pdf

The report identified thirteen technology clusters in Maine at the time that the data was collected and analyzed. Applications targeted to strengthen clusters that build on these foundations will receive priority by MTI. Applicants are encouraged to review this study and draw on its analysis in an application where applicable.

The study also rates the relative performance of key cluster elements and provides some line of sight markets within these clusters that are poised for growth. Applicants should frame projects in ways that build on their cluster’s strengths and shore up weaknesses, or that encourage the development of additional high potential clusters beyond those listed. This should be proposed with the broadest possible strategic context for the cluster and clearly demonstrate the sustainability and impact of the activity for the cluster development.

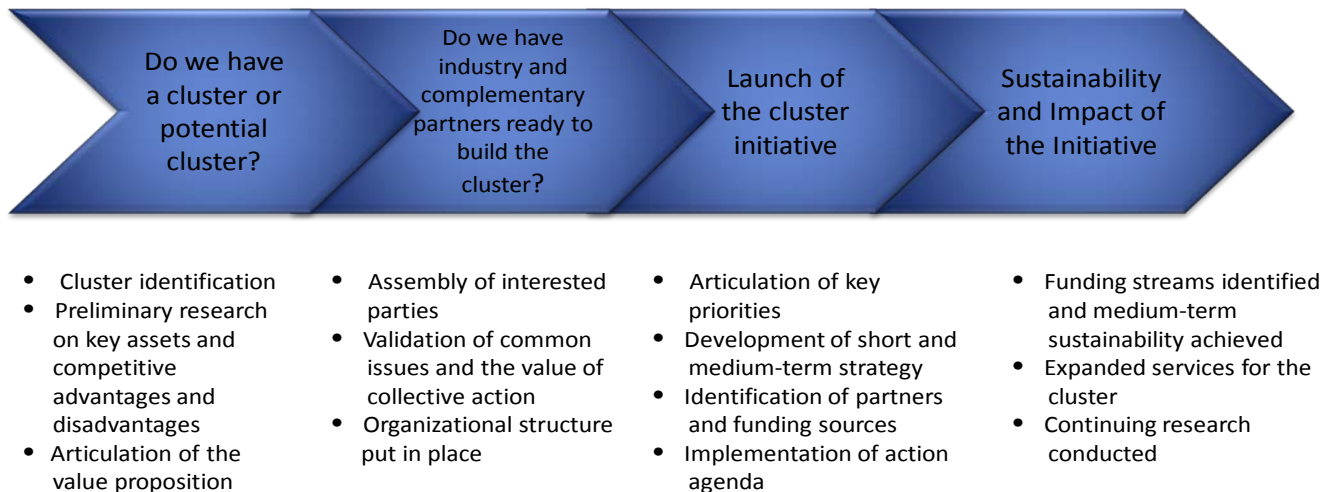
As further background, please refer to www.mainetechnology.org for information on prior Cluster Enhancement Awards, Cluster Initiative Awards and other MTI programs.

What is a Cluster Initiative?

A cluster initiative is an industry-led or guided effort to further the development and success of an individual cluster, thus leading to the growth of individual companies within the cluster. Examples of successful cluster initiatives include the development of a Sustainable Seafood program in Maine, with the Gulf of Maine Research Institute as the lead institution in a collaboration with industry leaders along every link in the supply chain, the development of the cleantech and renewable energy clusters through projects led by E2Tech and the Maine Composites Alliance, and the support for the composites industry through the development of the Composites Engineering Research Laboratory at Southern Maine Community College's Brunswick campus.

Cluster Initiatives can be at various stages of growth, as illustrated below, but should incorporate a few key elements to be successful.

The Stages of Cluster Initiatives



Guiding Principles on Cluster Initiatives

- Private sector-led with strong partnerships
- Build on knowledge-based and value-added advantages
- Innovation can occur in a variety of ways: products, services, and business models
- Money is important but networks are more important
- Measure success/impact throughout

Reynolds, MIT Industrial Performance Center

Links to Further Information:

Re-Examining Maine's Economic Position, Innovation Ecosystem and Prospects for Growth in Its Technology-Intensive Industry Clusters (2014 full report by Battelle Technology Partnership Practice)

http://www.mainetechnology.org/docs/Full_Report-Maine-Innovation-Ecosystem_final5.pdf

Maine's Technology Sectors and Clusters: Status and Strategy (2008 full report by Maine Center for Business & Economic Research, University of Southern Maine)

www.mainetechnology.org/docs/colgan_cluster_report_2008_full_report_final_040908.pdf

Cluster & Cluster Development Information from Harvard Business School

<http://www.isc.hbs.edu/competitiveness-economic-development/frameworks-and-key-concepts/Pages/clusters.aspx>

<http://clustermapping.us/content/clusters-101>

Cluster & Cluster Development Information from Brookings Institution

http://www.brookings.edu/papers/2011/0119_clusters_muro.aspx

http://www.brookings.edu/reports/2008/04_competitiveness_mills.aspx

Program Description

Objectives of the Cluster Initiative Award Program

The Cluster Initiative Award Program aims to boost the strength and scale of Maine's technology-intensive clusters, thereby expanding Maine's innovation economy and contributing to the growth of the companies within the cluster.

Cluster Initiative projects should:

- enhance knowledge and skills in companies and related research, service and supporting organizations;
- strengthen networks or linkages among the organizations that spread the knowledge and skills;
- boost entrepreneurship and innovation in technology clusters across Maine.

Cluster Initiative Awards support Maine's high-potential technology sectors and businesses by:

- increasing their infrastructure and leveraging this infrastructure to grow Maine companies;
- enhancing resources and connections between and among firms, service providers, research laboratories, educational institutions and other organizations;
- helping companies within the clusters access capital, talent and new markets.

Funding Opportunities and Types of Projects Encouraged

MTI is seeking to support cluster initiatives that strategically advance the development of Maine's high-potential technology clusters, or that spur cluster formation. Initiatives should draw on cluster experiences in Maine as well as other regions to employ best practices and avoid "reinventing the wheel." They also should monitor customer and competitive needs to increase this type of market knowledge in the State.

Successful cluster initiatives build cluster capacity for innovation that has a strong likelihood of sustained commercial success. Activities should be planned and driven by the organizations and companies that comprise those clusters. Visionary business leaders should be at the center of such efforts. Teams are encouraged to develop or build on a strategic plan for their cluster and to consider submissions that have phased approaches and plans for sustainability at the end of the Cluster Initiative Program funding. Initiative strategies should be "demand-driven" rather than driven by the needs of one particular organization. Initiatives should be flexible, "bottom-up," and collaboration-oriented, rather than prescriptive or "top-down" in their design.

Applicants seeking funds from the Cluster Initiative Program should keep in mind the following strategies that are applicable across all industry segments as a foundation for cluster initiatives. MTI funding can be used to enhance any of these identified areas as part of a strategic cluster initiative effort:

- Building technology networks specific to one cluster or related clusters – for example, topical workshops, or seminars, strengthening the capacity and sustainability of tech networks/trade associations and web sites and other platforms for information sharing.
- Decreasing distance to cut down on isolation between cluster participants and boost the identification of shared obstacles and solutions for them – for example, virtual presence and new media activities.
- Developing services that support the growth of an individual cluster or strengthen a capacity that is weak across multiple clusters – for example expertise on the definition of “green” products or resources to help early stage tech companies access the capital they need to grow – based on needs identified by the companies within the cluster.
- Making connections outside of Maine – for example forming and maintaining strategic collaborations with other parts of New England or Canada that will advance a cluster.
- Planning important infrastructure development – for example, capital plans for shared research and development facilities that will strengthen a Maine cluster’s competitive advantage.
- Addressing cluster weaknesses – for example, strengthening entrepreneurship, addressing the lack of knowledge transfer networks, boosting capital access and identifying or strengthening cluster production/distribution capabilities.

In addition, and from time to time, MTI may also invite proposals that are focused on a particular element critical to strong clusters in Maine. In such cases the project scope and content will be designed to encourage targeted applications for competitive review.

Eligible Applicants

CIP awards are generally made to a primary organization that represents multiple project partners, including private industry partners, industry trade groups and innovative organizations like universities or research institutions. Examples of award recipients include trade associations, regional economic development corporations or non-profit research institutions representing a collaborative. It is rare for an award to be made to an individual consulting firm or individual private company.

Types of Awards

Planning/Feasibility/Pilot Project Awards

Awards up to \$50,000 per proposal may be made for smaller projects that seek to define an emerging cluster, identify and bring together leaders to consider how to collaboratively develop a cluster, craft an action plan to build or strengthen a cluster, test or pilot a particular activity or address other pre-major initiative information and needs. These awards are generally expected to be six to twelve months in duration, but could occasionally be shorter or longer. MTI will fund as many eligible high quality projects as possible based on the availability of funding.

Applications for these requests of \$50,000 or less are accepted at any time on a rolling basis and will be assessed based on the strength of the project and its potential to be followed by larger scale cluster development. Resulting awards will be announced no later than 60 days after receipt of a complete application.

Multi-Year Implementation Awards

Awards up to \$500,000 per proposal may be made for projects that carry a high probability for **significant and sustainable** impact. Awards can span multiple years and be for sequential tasks if key project milestones are successfully completed. It is expected that many awards will be in the range of \$50,000 to \$300,000. MTI will fund as many high quality projects as possible based on the availability of funds.

MTI solicits multi-year implementation applications on a semi-annual basis, with application deadlines in March and October. Applications resulting from this solicitation will be reviewed competitively. Applications must be received by MTI no later than 5:00 pm on the deadline date posted on the MTI website. Resulting awards will be announced no later than 90 days after the application due date.

Matching Funds Requirements

All Cluster Initiative Program Awards require a contribution of at least \$1 for every \$1 awarded by MTI. In addition to actual cash, salaries, staff time, equipment and overhead directly attributable to the project, whether in cash or provided as “in-kind,” can be considered matching funds. Examples of eligible in-kind matching contributions include: equipment that is pledged for use on the project, personnel time on the project that goes unpaid, or personnel who accept a reduced rate of pay. The quality and amount of matching funds will be an important consideration as part of the application evaluation and award determination, and cash match provided by companies within the cluster ranking highest in this evaluation.

Pre-Application Workshop/Meetings

MTI will offer workshops and webinars to describe the Cluster Initiative Program (CIP) including eligibility requirements, the application, the competitive review and award approval process, and to address any questions. Workshop dates will be announced in conjunction with the notification of the application dates. Attendance at a workshop or webinar, or a one-on-one meeting or correspondence with MTI’s President or CIP Program Management Consultant, is a requirement for application submission. Attendance at earlier CIP workshops will carry forward, within reason, though applicants are required to fully read and review this Program Description and the current RFP since it will be updated periodically.