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CONNECTICUT AND MASSACHUSETTS BIOSCIENCE ASSISTANCE PROGRAMS

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You asked us to summarize Massachusetts' bioscience business assistance programs and compare them with Connecticut's. You also asked us to identify any major bioscience projects Massachusetts recently attracted or retained.

SUMMARY

In 2008, the Massachusetts legislature launched a 10-year, \$1 billion strategy to develop and sustain the state's bioscience industry and support the academic institutions that conduct bioscience research. To implement the strategy, the legislature created many new programs and assigned them to the Massachusetts Life Science Center (MLSC), a quasi-public agency it created in 2006.

The bioscience programs provide funds and tax credits for developing infrastructure and facilities, acquiring machines and equipment, starting or expanding new businesses, and hiring college interns. They run parallel to older programs serving a wider range of businesses, including bioscience ones. Both program tracks offer the same types of assistance (e.g., loans and tax credits), but the older track is mostly for mid-stage and mature businesses while the bioscience track offers assistance for bioscience businesses at all developmental stages.

MLSC uses the bioscience programs to recruit and retain businesses. MLSC staff actively recruits bioscience businesses by attending conferences and tradeshows. The recruited businesses include branches or divisions of Biocell Center (from Italy), Integragen (from France), and Pfizer (from Groton, Connecticut), although MLSC's annual reports do not include them among the businesses that received assistance. The reports do not identify those businesses MLSC kept from leaving the state or closing.

Connecticut provides the same types of assistance to bioscience businesses as Massachusetts, but mostly through programs opened to many different types of businesses, such as manufacturers and financial service firms. The exception is the Bioscience Facilities Fund, which provides financing for constructing laboratories designed for handling chemicals, drugs, and other substances (i.e., wet laboratories). Recently, the legislature sought to stimulate and sustain the bioscience industry by funding large-scale bioscience projects at John Dempsey Hospital and the University of Connecticut Health Center.

MASSACHUSETTS BIOSCIENCE ASSISTANCE PROGRAMS

Massachusetts 2008 Life Science Initiative

In 2008, Massachusetts enacted a 10-year, \$1 billion strategy to develop and sustain the state's bioscience industry, which includes biotechnology, pharmaceutical, medical devices, diagnostic, and bioinformatic businesses ([2008 Mass. Chapter 130](#)). The strategy addresses the industry's physical, human, and technological development needs and consists of many economic development programs targeting only bioscience businesses.

The \$1 billion price tag includes up to \$500 million in bonds for specified projects; \$250 million in appropriations for research grants, fellowships, and sector-wide workforce training initiatives; and \$250 million in personal and corporate business tax credits and sales tax exemptions. The tax credits are capped at \$25 million per year. As Table 1 shows, the programs address the bioscience industry's long- and short-term infrastructure, workforce development, and financial needs.

Table 1: Massachusetts Life Sciences Initiatives

Physical Development	
Long-Term Needs	Short-Term Needs
\$500 million in bonds for specified life science infrastructure and facilities, including water purification plants and incubator buildings	<p>Tax Incentives</p> <ul style="list-style-type: none"> • 10%, refundable personal income and corporate tax credit against the cost of acquiring, constructing, reconstructing, or erecting real and tangible personal property used exclusively in Massachusetts • Sales tax exemption for purchasing tangible personal property to be used for developing R&D or manufacturing facilities or utility support systems
Human Development	
Long-Term Needs	Short-Term Needs
<p>Matching grants for:</p> <ul style="list-style-type: none"> • Supporting new personnel conducting innovative research at colleges and universities • Attracting and retaining nationally prominent faculty • Encouraging business-university collaborative research • Purchasing life science demonstration and training equipment and supplies for educational laboratories and training spaces <p>Internship Challenge Program places students and recent graduates in life science-related internship programs and reimburses businesses for up to \$7,200 of the cost</p>	<ul style="list-style-type: none"> • \$5,000 -\$15,000 grants covering living expenses for life sciences doctoral students and post-doctoral fellows • Grants to vocational and technical schools for purchasing or leasing equipment for training in life sciences technology and research • 100% life science job incentive tax credit (90% refundable) for companies adding at least 50 new full-time jobs
Technological Development	
Long-Term Needs	Short-Term Needs
<p>Regional Technology and Innovation Centers for:</p> <ul style="list-style-type: none"> • Promoting collaborative research • Building life sciences industry data bases • Developing life sciences workforce • Disseminating best life sciences business practices • Facilitating public and private investments • Reviewing proposals for Life Sciences Center funding • Identifying life sciences regional clusters 	<p>Tax Incentives</p> <ul style="list-style-type: none"> • 100% personal income and corporate tax credit against Federal Food and Drug Administration user fee applications for human drugs manufactured in Massachusetts • Nonrefundable credit applicable to R&D expenses not covered under the generic R&D credit • Deduction for clinical expenses of testing drugs for rare diseases or conditions • Sales tax exemption for items used in R&D • 15-year net operating loss carried forward (normally, five-year carry forward) • “Throwbacks” excluded from sales factor for apportioning corporate income* <p>Financial Assistance</p> <ul style="list-style-type: none"> • Life Science Investment Fund: grants, loans, investments, and other funding to businesses, universities, institutes, and other entities for commercializing life science R&D • Small Business Equity Investment Fund: up to \$250,000 investments in early stage life sciences firms • Small Business Matching Grant Fund: Up to \$500,000 to match federal grants for commercializing production-ready new technologies • Life Science Accelerator Program: working capital loans for early stage life science companies with less than \$7.5 million in equity financing

* “Throwback” requires companies to add sales in states where there are no corporate taxes to Massachusetts sales.

The programs are implemented by [MLSC](#) and are available to any business meeting statutory criteria that require, among other things, the business to estimate the revenue it expects to generate and the number of permanent full-time jobs it expects to create or retain. MLSC can revoke funding if the actual revenue is less than 70% of the projected revenue.

Generic Economic Development Programs

The life science programs are in addition to the Massachusetts' generic economic development programs, many of which are still available to life science businesses and predate the bioscience programs. Table 2 identifies the programs and the implementing agencies.

Table 2: Massachusetts Generic Economic Development Programs

Type of Assistance	Massachusetts Finance and Development Authority (MassDevelopment)	Executive Office of Housing and Economic Development	Massachusetts Technology Development Corporation (MTDC)
Financing	Financing for developing property, acquiring machinery and equipment, new and expanding technology companies, and assessing and remediating contaminated property	No programs	No programs
Venture Capital	No programs	No programs	Venture capital investments for start-up and expanding early-stage technology companies
Expedited Permitting	Helping municipalities identify appropriate priority development sites	Funds for municipalities to identify sites for expedited permitting	No programs
Technical Assistance	Helping municipalities identify and assess development feasibility of specific sites	<ul style="list-style-type: none"> • Helping businesses access economic development programs • Helping businesses obtain permits, licenses, and other regulatory approvals 	No programs
Tax Credits		<ul style="list-style-type: none"> • 10% to 40% tax credits for business projects creating jobs and generating substantial sales outside the state • 3% investment tax credit for developing property 	No programs

As the table shows, Massachusetts' generic programs include several that help businesses obtain necessary state and local approvals. The [Massachusetts Permitting Regulatory Office](#) helps businesses, including bioscience ones, obtain necessary licenses, permits, and approvals. It

also provides grants to municipalities to identify sites where they can expeditiously approve permits for a proposed development. The office also tracks pending regulatory approvals for state funded-housing and economic development projects.

Massachusetts' generic economic development and new bioscience programs can be combined to help bioscience businesses in different developmental stages. As Table 3 shows, the generic programs focus on mid-stage or mature businesses while bioscience programs cover these and start-up and early stage businesses.

Table 3: Massachusetts Life Science Incentives Matrix

	= Life Science Initiative Program
	= Generic Economic Development Program

Assistance Type	Individuals and Universities	Business Development Stages				Infrastructure
		Start-ups	Early Stage	Mid-Stage	Mature	
Grants	New Investigator Grant	Cooperative Research Grant	Hiring Incentive Grant			Infrastructure Grants
	New Faculty Start-up		Internship Challenge Grants			Infrastructure Grants
			Small Business Matching Grant			
Financing		Life Sciences Accelerator		Emerging Technology Fund		District Improvement Financing
				Export Financing		
					Tax-Exempt Industrial Bonds	
Tax Incentives		Refundable 10% Life Science Investment Tax Credit				
				Economic Development Incentive Program		
				3% Investment Tax Credit		
					Single Sales Tax Factor for Manufacturers	
				Sales and Use Tax Exemption		
		Refundable Life Science R&D Tax Credit				
				10% R&D Tax Credit		
			Refundable FDA User Fee Credit			
				15-year Net Operating Loss Carry Forward		
			Construction Sales Tax Exemption			

Source: [Massachusetts Biotechnology Council](#)

Attracted or Retained Projects

MLSC and MassDevelopment report on the businesses they financed in their annual plans. MLSC identifies those it attracted to Massachusetts, but does not specifically identify those it retained there.

(We assume that a retention project provides assistance to a company that might close or leave the state.) MassDevelopment does not divide projects into attraction and retention categories.

Table 4 lists the bioscience businesses that received financial assistance from MLSC and MassDevelopment and investment capital from MTDC. It also identifies projects MLSC identified as attractions projects, some of which were not listed among those that received financing or tax credits. We limited the businesses receiving tax credits to those that received over \$1 million in credits. The table does not include the early-stage businesses that received MLSC assistance. Nor does it include businesses awarded tax credits by the Executive Office of Housing and Economic Development, which oversees the Massachusetts Office of Business Development, the Massachusetts Permit Regulatory Office, and several other executive branch entities.

Table 4: Bioscience Businesses Receiving MLSC and MassDevelopment Financing, 2006-2011

Company	Amount	Year	Agency	Attraction Project
Bidex, Inc	\$2.5 million in Emerging Technology Fund loan	2006	MassDevelopment	Not indicated
Biocell Center	No assistance reported	2009	MLSC	Yes—from Italy
Biogen Idec MA, Inc.	\$1.5 million in tax credits	2010	MLSC	No
Blue Sky Biotech, Inc.	\$175,000 Emerging Technology Fund loan	2008	MassDevelopment	Not indicated
	\$150,000 Emerging Technology Fund loan	2006	MassDevelopment	Not indicated
	\$150,000 equipment loan	2007	MassDevelopment	Not indicated
Bristol-Myer Squibb	\$112 million mortgage guarantee	2009	MassDevelopment	Not indicated
Cubist Pharmaceuticals, Inc	\$1.7 million in tax credits	2010	MLSC	No
CYTOO	No assistance reported	2009	MLSC	Yes—from France
Early Sense	No assistance reported	2011	MLSC	Yes—from Israel
ECI Biotech	\$400,000 in Emerging Technology Fund loan	2008	MassDevelopment	Not indicated
Evaluate Pharma	No assistance reported	2011	MLSC	No
Genzyme Corporation	\$6.0 million in tax credits	2010	MLSC	No
Hyaluron Corporation	\$1 million Emerging Technology Fund loan	2006	MassDevelopment	Not indicated
	\$500,000 export loan guarantee	2006	MassDevelopment	Not indicated
Image Diagnostic	\$1.5 million in tax-exempt bond financing	2009	MassDevelopment	Not indicated
Integrigen	No assistance reported	2011	MLSC	Yes—France
Marine Biological Laboratories	\$3.4 million in tax-exempt bond financing	2006	MassDevelopment	Not indicated
Massachusetts Biomedical Initiative	\$1 million in Emerging Technology Fund loan	2006	MassDevelopment	Not indicated
	\$1 million real estate loan	2006	Mass Development	Not indicated
Masy System, Inc.	<ul style="list-style-type: none"> • \$490,000 export loan • \$700,000 equipment loan 	2011	MassDevelopment	Not indicated
Merrimack Pharmaceuticals	\$1.5 million in tax credits	2010	MLSC	No
	\$1.3 million in tax credits	2011	MLSC	No
Millstone Medical Outsourcing	\$4.5 million in tax-exempt bond financing	2009	MassDevelopment	Not indicated
Neostem, Inc.	No assistance reported	2010	MLSC	Yes—International, multiple locations
NX Stage Medical, Inc.	\$1.3 million in tax credits	2011	MLSC	No
Pfizer Center for Therapeutic Innovation	No assistance reported	2011	MLSC	Yes—Groton, Connecticut
Pharmalucence, Inc.	\$20 million in Recovery Zone Bond financing	2010	MassDevelopment	Not indicated
Qteros	\$2 million Emerging Technology Fund loan	2010	MassDevelopment	Not indicated
Sagentia	No assistance reported	2011	MLSC	Yes—United Kingdom
Shire Human Genetic Therapies, Inc.	\$6.3 million in tax credits	2010	MLSC	No
	\$5.8 million in tax credits	2011	MLSC	No
Sanofi-Aventis, U.S., Inc.	\$2.5 million in tax credits	2011	MLSC	Yes—from France
Systagenix	No assistance reported	2009	MLSC	Yes—from United Kingdom
Thomophase Corporation	Venture capital investment, amount unspecified	2011	MTDC	Not indicated
Vertex Pharmaceuticals	\$2.2 million in tax credits	2011	MLSC	No

Sources: MLSC FY 2010 and 2011 annual reports and MassDevelopment annual reports 2006-2010, and MTDC website.

CONNECTICUT'S ECONOMIC ASSISTANCE FOR BIOSCIENCE BUSINESSES

Connecticut provides the same kind of economic assistance to bioscience businesses as Massachusetts, but does so through agencies and programs serving several different industry sectors.

- The [Department of Economic and Community Development](#), like Massachusetts' Executive Office of Housing and Economic Development, finances business and municipal development projects and helps expedite state approvals of large-scale economic development projects.
- The [Connecticut Development Authority](#), like MassDevelopment, provides loans, loan guarantees, and tax-exempt bond financing for business development projects. It also provides sales and use tax exemptions for these projects.
- [Connecticut Innovations, Inc.](#) (CII), like MTDC, mostly invests in technology businesses, but also finances the construction of wet laboratories and related facilities ([Bioscience Facilities Fund](#)) and provides tax credits to individuals investing in small businesses developing new technologies ([Angel Investor Tax Credit Program](#)).

The legislature recently shifted gears, authorizing bonds for large-scale bioscience projects as a way to stimulate and develop the bioscience industry. PA 10-104 provided over \$360 million in bonds and other funds for constructing a new bed tower; renovating academic, clinical, and research space at John Dempsey Hospital; and developing regional health network initiatives. It also extended enterprise zone property tax exemptions and corporation business tax credits to bioscience businesses in Hartford and designated sections of Farmington, New Britain, and Bristol. (PA 11-140 extended these benefits to designated sections of Plainville.)

PA 11-2, October Special Session, authorized CII to develop a bioscience industry cluster centered on a new Jackson Labs research facility to be constructed at the University of Connecticut Health Center. It authorized up to \$290 million in bonds over 10 years for the laboratory's construction, operation, and research activities.

LINKS

2008 Mass. Chapter 130,

<http://www.malegislature.gov/Laws/SessionLaws/Acts/2008/Chapter130>

Massachusetts Life Science Center,

<http://www.masslifesciences.com/mission.html>

Massachusetts Biotechnology Council, “Massachusetts Life Science Incentive Matrix,”

http://www.massbio.org/writable/editor_files/2010_incentives.pdf

MassDevelopment, <http://www.massdevelopment.com/>

Massachusetts Executive Office of Housing and Economic Development,

<http://www.mass.gov/hed/>

Massachusetts Economic Development Incentive Program,

<http://www.mass.gov/hed/business/incentives/edip/edip-program-information.html>

Massachusetts Investment Tax Credit,

<http://www.mass.gov/hed/business/incentives/investment-tax-credit.html>

Massachusetts Technology Development Corporation,

<http://www.mtdc.com/>

Massachusetts Permit Regulatory Office,

<http://www.mass.gov/hed/economic/eohed/pro/about/mission-of-the-office.html>

Connecticut Department of Economic and Community Development,

<http://www.ct.gov/ecd/site/default.asp>

Connecticut Development Authority, <http://www.ctcda.com/>

Connecticut Innovations, Inc.,

<http://www.ctinnovations.com/FundingOpportunities.aspx>

Connecticut Innovations, Inc., Bioscience Facilities Fund,

<http://www.ctinnovations.com/FundingOpportunities/BioScienceFacilitiesFund.aspx>

Connecticut Innovations, Inc., Angel Investor Tax Credit,
<http://www.ctangeltaxcredit.com/>

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