Census of State Government Initiatives for High-Technology Industrial Development

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Technology, Innovation, and Regional Economic Development

Background Paper

Census of State Government Initiatives for High-Technology Industrial Development



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Preface

This background paper contains preliminary information gathered by OTA during the early stages of its assessment of Technology, Innovation, and Regional *Economic Development. The* information is being made available at the request of public officials and others with an interest in high-technology development programs that are being mounted at the State and local levels. OTA hopes that its timely publication will prove helpful to readers who have an immediate need for more detailed information than will be available in the formal report of this assessment.

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CHAPTER I
Summary

Over the past 20 years, several regions of the United States have developed strong local economies based on fast-growing, technology-based industries. Encouraged by the success of "high-technology" industries in California's Silicon Valley, Massachusetts' Route 128, and North Carolina's Research Triangle, many other States have launched government initiatives to promote similar high-technology industrial development of their own.

OTA's census, carried out as part of the ongoing assessment of *Technology, lnnovation, and Regional Economic Development,* has identified 150 State government programs with at least some features directed toward high-technology development. Only a few of these initiatives, however, are dedicated assistance programs focused on the needs and problems of high-technology businesses. Using the narrower definition of a "dedicated" high-technology development program—chartered and at least partially funded by the State, and specifically targeted on the creation, attraction, or retention of high-technology firms-OTA identified a total of 38 programs in 22 States. Most of these initiatives have been launched within the last 3 years.

OTA also found that the States define "high-technology development" in many different ways. In most cases, State officials consider their high-technology initiatives to be a natural and even unavoidable extension of their different economic development strategies. As a result, their high-technology initiatives show a great deal of variety in form, purpose, and level of funding. In general, however, the dedicated programs provide services that address four central needs of high-technology firms, particularly those of entrepreneurial businesses engaged in the development and commercialization of innovative products and services:

- *technical assistance,* including access to technical facilities and equipment as well as the consulting services of experienced personnel to conduct feasibility studies or patent searches;
- *manpower assistance,* including access to scientific and technical personnel as well as highly skilled labor;
- *business assistance,* including access to consultants who can help the entrepreneur put together a business plan or management team, as well as assistance with licensing and permitting or through subsidies for sites and facilities; and
- *financial assistance,* particularly access to risk capital (whether through brokerage services, or direct State equity investment, grants, or loans and loan guarantees), but also including fiscal assistance such as research and development tax credits, technical training credits, and other tax incentives and concessions.

OTA has not yet completed its evaluation of the effectiveness of these State efforts and their impacts on related Federal policies and programs for high-technology industry. It should be noted, however, that only a few of the high-technology development programs have been in place long enough to show measurable results or impacts. Further, the States that have launched these initiatives often had considerable high-technology development prior to the State government's intervention, making it difficult to assess the specific impact of the dedicated programs on further development.

CHAPTER II

Int roduct ion

Overview

Over the past two decades, several regions of the United States have developed strong local economies based on high-growth, technology-based firms that are engaged in the systematic development and commercialization of new products, processes, and services. These firms, and the industries they compose, are a major source of new jobs in the manufacturing sector and an important factor in U.S. international competitiveness and balance of trade. They are also a key source of the innovations that are essential to increased productivity in more mature industries. As a result, several Federal policies are aimed at encouraging their growth. In addition, these high-technology industries are also becoming the targets of the economic development strategies of many State and local governments, as well as the efforts of corporations, universities, and other private sector groups.

This background paper presents the preliminary results of a census of existing State government programs to stimulate, attract, or retain high-technology industrial development. As such, it represents an update of similar studies conducted by the State of California for the National Governors' Association (NGA) *(State Activities to Encourage Technological Innovation,* October 1981, revised February 1982) and by Venture Economics, Inc. *(Source Guide of Government Technology and Financial Assistance,* Capital Publishing Co., October 1982). Much of the impetus for such studies comes from an increasing awareness of the impact of State and local initiatives on the creation of new businesses. In addition, recent changes in Federal policy have put increasing emphasis on the role and responsibility of the States in controlling the distribution of public funds and in promoting their own economic development and well-being.

Scope

Later components of OTA's assessment of *Technology, Innovation, and Regional Economic Development* will address the factors that influence the birth and location of high-technology firms and the role of high-technology industries in the growth and revitalization of the U.S. economy. We have given priority to the identification of State initiatives for high-technology development, however, in response to both the desires of the Committees of Congress that requested this study and the recommendations of the OTA Planning Workshop held in July 1982.

The purpose of this census was to identify the fullest range and variety of State initiatives for the encouragement of high-technology industrial development. As a consequence, it cast a wide net—both "high-technology programs" and "high-technology industries" were defined broadly (see below) in order to catch as many potential initiatives as possible, as well as the similarities and differences between these initiatives.

Methodology

Based on the NGA and Venture Economics studies cited above and additional literature search, project staff developed a list of known high-technology initiatives and names of contacts. In States where no initiative was known, a call was placed to the Washington Office of the Governor; if this turned up no contact, a call was made to the Office of the Governor in the State capital. In each State contacted, an effort was made to identify not only the manager of individual programs, but also the one person in the State government most knowledgeable about its high-technology industrial development initiatives. In many cases these proved to be the same person.

Project staff called the managers of known programs in order to determine the current status of each program and to verify available information about its purpose and funding level and the services it provides. Where no dedicated program had previously been identified, the contacts were asked if their State had any high-technology incentive program and, if yes, to describe the mission of that program and the services it provides. In addition, they were asked for information about other programs, such as vocational and technical training programs funded by the State, as they relate to a high-technology development strategy. In States with no dedicated high-technology program, the contact was questioned about the extent to which general industrial development programs might also promote high-technology development. In addition, questions were asked about overall State strategy in general economic development, and the place of high-technology industries in this development.

Preliminary Taxonomy

The census data gathered by OTA have been coded and stored according to a preliminary taxonomy of program types and services. This taxonomy, based on earlier studies and literature searches, includes 5 descriptive codes for "universal categories" or program types, in addition to about 40 functional codes for specific services that are (or could be) provided to high-technology firms by one or another of these program types. Although formatting constraints did not allow for extensive comments, codes were added over time to capture the unique features and qualities of different State efforts. This results in some overlap—individual initiatives may be classified in two different program categories, and some programs may be listed as offering up to 10 different services—but it also indicates the range and diversity of the tactics that have been employed by State governments to encourage high-technology development. The program and service codes are listed in table 1 for ease of reference and comparison in ' . discussion that follows.

Table 1.—High-Technology Development Programs and Services

Program types
High-technology development
High-technology education
Capital assistance
Labor/technical assistance
General industrial development
Functional codes (Program services)
Enterprise zones
Industrial revenue bonds
Information dissemination
Investment capital
investment in survival
Grants
research
startup
development
training
Labor
grant for jobs created
training vouchers
training technical staff
training by State
technical support by State
link with university
Legislation
Licensing assistance
Loans
debt
equity
subordinated
stock or royalty rights
guarantees
long-term low-interest
Market development assistance
Office or equipment provision
Physical plant assistance
Patent searches
Product development assistance
State resources promotion
Task forces and commissions
Tax incentives
reduction in corporate tax
abatement of property tax
freeze on assessed value
exemption from sales tax
Venture capital
direct (startup)
direct (product development)
bond issue to raise funds
royalty or stock rights
assistance in finding

SOURCE Office of Technology Assessment

CHAPTER III

Analysis of Census Results

Overview

OTA's census identified over 200 State and local level economic development initiatives with at least some features directed toward high-technology development. The appendix contains detailed descriptions of 150 of these initiatives that were launched by State governments; table 2 shows the distribution of these programs by type and State. Using the narrower definition of a "dedicated" high-technology development (HTD) program—chartered and at least partially funded by the State government, and specifically targeted on the creation, attraction, or retention of high-technology firms—OTA identified a total of 38 programs in 22 States.

Most of these HTD initiatives have been launched within the last 3 years (see table 3). Few of them have been in existence long enough to produce measurable results, and in most cases there has been no systematic evaluation of their effectiveness. In fact, their effectiveness will be difficult to measure–many of these States had experienced a considerable amount of high-technology development prior to any intervention by the State government, and the impact of the dedicated program on further development has yet to be demonstrated. In other cases, furthermore, relatively mature State programs have been very slow to produce any appreciable results,

Table 2.—State High-Technology Programs by Type[a]

State	HTD	TF	HTE	LTA	CPA	GID
Alabama	—	—	—	—	—	1
Alaska	—	—	—	—	2	—
Arizona	—	—	1	1	1	1
Arkansas	—	—	—	2	1	—
California	1	—	1	1	—	—
Colorado	1	1	—	1	—	1
Connecticut	3	—	—	1	1	1
Delaware	—	—	—	—	—	1
Florida	3	—	1	—	—	3
Georgia	1	—	2	—	—	—
Hawaii	1	—	—	—	—	—
Idaho	—	—	—	2	—	1
Illinois	2	1	—	2	1	—
Indiana	1	—	1	—	—	—
Iowa	—		—	—	—	—
Kansas	—		—	—	—	1
Kentucky	—	—	—	1	1	1
Louisiana	—	1	—	—	1	—
Maine	—	—	—	—	2	2
Maryland	—	1	—	2	3	—
Massachusetts	1	—	1	1	1	1
Michigan	8	—	—	1	1	—
Minnesota	—	—	1	—	—	1
Mississippi	1	—	—	1	1	1
Missouri	1	—	2	2	2	2
Montana	—	—	—	—	—	1
Nebraska	—	—	—	1	—	1
Nevada	—	—	—	—	—	1
New Hampshire	—	—	—	—	—	1
New Jersey	—	1	—	—	—	—
New Mexico	2	—	1	—	—	—
New York	2	—	—	1	2	—
North Carolina	1	—	2	—	—	1
North Dakota	—	—	—	—		1
Ohio	1	—	—			1
Oklahoma	—	—	—	—	—	1
Oregon	—	—	—	—	—	1
Pennsylvania	2	—	1	1	-	—
Puerto Rico	—	—	—	2	1	—
Rhode Island	1	—	—	1	1	—
South Carolina	—	1	—	1	—	—
South Dakota	—	—	—	—	—	1
Tennessee	2	—	1	—	—	—
Texas	1	—	—	1	—	2
Utah	—	—	—	—	—	1
Vermont	—	—	—	—	1	—
Virginia	1	1	—	—	—	1
Washington	1	—	1	—	—	—
West Virginia	—	—	—	1	—	1
Wisconsin	—	—	—	—	—	3
Wyoming	—	—	—	—	—	1
Totals	38	9	15	27	27	37

[a]HTD - High-technology development.
TF = Task force.
HTE = High-technology education.
LTA = Labor/technical assistance.
CPA = Capital provision assistance
GID = General Industrial development

SOURCE: Off Ice of Technology Assessment

Table 3.—Establlshment of State High-Technology Programs by Year

1959	North Carolina Research Triangle Park
1984	Mississippi Research and Development Center
1988	New York Science and Technology Foundation
1975	Connecticut Product Development Corp.
1978	Florida Research and Development Commission
	Massachusetts Technology Development Corp.
1979	Hawaii Venture Development Fund
	North Carolina Board of Science and Technology
1980	Georgia Advanced Technology Development Center
1981	California Innovation Development Loan Program
	Florida Technical Entrepreneurship Program
	Indiana Corp. for Science & Technology
	Missouri Office of Science and Technology
	New York Corp. for Innovation Development
	Pennsylvania Industrial Development Authority
	Tennessee Department of High-Technology, Finance, and Service Sales
	Washington Research Foundation
1982	Connecticut Innovation Development Loan Fund
	Connecticut Science Park
	Illinois Biomedical Research Parks
	Illinois Research Assistance to the State
	Michigan High-Technology Development Corp.
	Michigan High-Technology Resource Center
	Michigan Industrial Technology Institute
	" Michigan Innovation Center
	Michigan Molecular Biology Institute
	Rhode Island Strategic Development Corp.
	Tennessee Technology Corridor Foundation
	Texas Institute for Ventures in New Technology
	Virginia Science, Engineering, and Technology Advisory Service
1983	Florida Interagency High-Technology Committee
	Michigan High-Technology Equity Loans
	New Mexico Economic Development Division
	Ohio Industrial Technology and Enterprise Board
	Pennsylvania Ben Franklin Partnership Fund

SOURCE: Office of Technology Assessment,

while more recent programs in other States are already considered successful. Admittedly, some programs are designed to achieve long-range objectives, while others are intended to show short-term results; but there has yet to be any systematic comparison of the effectiveness and benefits of different program types. Finally, some States report that, even without a dedicated effort, they have nevertheless experienced a great deal of high-technology industrial development.

It was also found, however, that different States define "high-technology development" in different ways, and that in most cases their high-technology initiatives are an extension of their overall economic development strategies. States with HTD initiatives, for example, tend to be those that had a sophisticated research base and considerable high-technology industry even before these programs were established; their objective is in part to strengthen and retain what was already there. In States where the economic base consists primarily of "sunset" industries, on the other hand, the "high-technology" strategy tends to emphasize economic diversification and the application of new production technologies to traditional manufacturing processes. Still other States, notably those that are not yet highly industrialized, base their strategies on the aggressive pursuit of the production facilities of expanding high-technology firms as part of a broader effort to bolster their industrial base and build the foundation for future development.

These patterns suggest that, for most States, attention to high--technology industrial development is not distinct from economic development in general. They also suggest, however, that in launching their initiatives, the States have given attention both to the special needs of technology-based enterprises and to their own comparative advantage vis-a-vis the basic stages of technological innovation and commercialization. This attention, in turn, results in part from the ways in which these programs have been created.

Creation of State High-Technology Programs

Initiatives to promote high-technology industrial development usually come about in one of two ways: 1) as a natural, evolutionary outgrowth of the State's ongoing economic development efforts; or 2) as the result of a special effort to identify and mobilize the appropriate State resources. Both routes lead to programs that are based on the needs of technology-based enterprises, whether perceived or projected, and on strategies to mobilize the resources or provide the services that will encourage or attract their growth within the State. In many cases the programs are based on models elsewhere: several States cited

the National Research Development Corp. (created by the British Government in 1949 to commercialize new products), and many other strategies are described in terms of "making Silicon Valley happen here."

General Industrial Development Programs

In the first instance, the dedicated high-technology program results from a need perceived by the State's department of economic development. This office already provides a wide range of assistance to industry in general, such as locating plant sites or identifying an appropriate labor pool. Many but not all these services are also helpful to technology-based businesses. As more and more special requests are received from high-technology firms, or as this sector becomes more important to the State's industrial base, individuals or offices within the existing State agency are designated to concentrate on meeting this increasing demand.

OTA found that almost all States have "general industrial development" programs that can also assist or influence the creation and growth of high-technology businesses. The same can be said for programs in the "capital assistance" and "labor and technical assistance" categories. These programs rarely exclude any specific type of business that needs their services, and the services they offer to new, expanding, or relocating high-technology industry are often not much different from services offered to more traditional industry.

For this reason many States that do not have dedicated HTD programs can and do encourage this kind of development through the services offered by their general, capital, and technical assistance programs. In the States where dedicated programs do exist, they usually work closely with these general programs to help their high-technology clients. In addition, in several States, an existing State agency or representative assumed the job of encouraging high. technology industrial growth in the State.

As a result, however, it was difficult in most States—even those with dedicated programs—to determine precisely where to make the cutoff between "high-technology" programs, on the one hand, and those whose mission is more general but who nevertheless provide the special services demanded by a growing high-technology sector.

High-Technology Task Forces

The second method of creating a high-technology program is more of a "supply-side" tactic. The Governor or legislature appoints an ad hoc task force to examine the State's resources and recommends initiatives that will encourage the development of high-technology industries. These task forces usually represent all sectors of the State's economy, and they address such issues as the proper definition of "high technology, " the special needs of high-technology firms, and the question of loyalty to traditional industry versus the appeal of emerging technologies.

OTA's census identified nine existing task forces, and similar task forces in a number of other States have already disbanded after reporting to the Governor or legislature. In many cases the task forces, after presenting their recommendations, are succeeded by permanent advisory committees that coordinate subsequent efforts, In other cases they are transformed into nonprofit, semiprivate corporations or foundations that administer or provide funding for the mechanisms created to implement task force recommendations. These organizations often provide the basis for the State's HTD programs.

High-Technology Development Programs and Services

OTA's census identified only 38 State initiatives that met the criteria for the "high-technology development" category—that is, a dedicated State government program or agency whose specific mission is the promotion of high-technology industrial development in the State, whether by attracting branch plants of expanding firms elsewhere or by encouraging the creation and retention of indigenous high-technology businesses. In addition, OTA identified 15 "high-technology education" programs—initiatives undertaken by States in conjunction with their universities, and dedicated to equipping inventors

or entrepreneurs with the skills needed to create firms that will develop or commercialize emerging technologies. In many cases, however, it is difficult to draw the line between these two categories, paricularly where the school involved was a State university and thus funded by the State. (In addition, the 15 education programs included here are only a fraction of the HTD programs that have been launched by colleges and universities, both public and private, throughout the Nation.)

The services most frequently offered by these 53 programs involve information dissemination–ii' programs link industry and university resources, and 8 others involve promotional activities aimed at advertising the State's resources and opportunities for high-technology firms. Almost half of the programs also offer some form of financial assistance—nine programs assist entrepreneurs in locating venture capital, another nine deal with industrial revenue bonds, eight provide grants for research and development, and four provide loans to high-technology firms. Other services commonly offered inelude: market development assistance (seven programs); product development assistance (four programs); and incentives or assistance in training technical personnel (five programs). More unique services include helping inventors to acquire patents; providing laboratory or office space for new and growing businesses; and investing public pension funds in high-technology business.

Unsuccessful High-Technology Programs

In the course of its census, OTA also identified several high-technology industrial development programs that have not succeeded. It is unclear whether the reasons for failure are unique to each program or State, or the result of program design flaws that other States should avoid. Several examples follow:

- The Maine Capital Corp. (MCC) was established by the legislature in 1978, with capitalization encouraged through a 50-percent credit against State income tax for investments in MCC. Since that time, MCC has funded only one project—a manufacturer of electronic parts —and that project was unsuccessful. Although MCC has advertised its services, the fact that it could invest only in Maine corporations, and the fact that it is so close to Boston (a center of competing private venture capital activity), may have rendered the program ineffective.
- The Michigan Business Development Corp. (MBDC) was authorized by the legislature in 1979 to promote the growth of small high-technology businesses in Michigan by channeling private venture capital to existing firms. However, the legislature did not reach final agreement with the financial community about stock and royalty rights before the legislation was passed. As a result, the private sector was unwilling or unable to provide funding to businesses through this program, and MBDC never got off the ground. It was replaced in 1981 by the Michigan Economic Development Authority, which has established several programs for financial assistance to high-technology industry.

The New Jersey Office for Promoting Technical Innovation (OPTI) was set up in 1979 to encourage economic development through technical, business, and financial assistance to technology-based enterprises. OPTI had a broad mandate but little flexibility or funding. It attempted to encourage everything from "basement inventors" to sophisticated licensing arrangements, but its greatest success may have been in involving the private sector in screening and financing promising projects. The program lost its funding on September 31, 1982, but a source close to the program characterized it as a useful experiment whose errors were taken at a low cost. A proposal to create **a** similar mechanism, with these errors corrected, has been introduced in the New Jersey Legislature.

High Technology in Overall State Strategies

Most States report that "high-technology development" is part of their overall strategies to increase economic growth, create new jobs, and enhance the standard of living of their people. (These strategies are described in the appendix.) As part of this effort, most States seem to be assessing their strengths and capitalizing on them in order to develop, attract, or retain high-technology industry. The resulting programs therefore appear to target different phases in the development and commercialization of new technologies, according to each State's comparative advantage. These phases correspond roughly to basic stages of industrial innovation: 1) initial research and product/process development; 2) commercialization and firm creation; and 3) expanding production or application by established firms. These patterns are illustrated below with examples identified by the OTA census.

Strategies Focused on Research and Development

States whose high-technology strategies emphasize basic and applied research in emerging technologies tend to focus on the resources and facilities of their university systems, and on the importance of cooperation between industry and university activities. Several States are working to improve or expand the university faculty, curriculum, and research in relevant disciplines. To encourage these efforts they often provide R&D tax credits, offer challenge grants for university research, seek out Federal R&D contracts, and even support the creation of independent centers of research and development.

- Michigan has set up several research institutes with State funding to conduct research and development in biotechnology and robotics.
- Illinois and Utah both have a biomedical research park connected with the State university.

Strategies Focused on Commercialization and Firm Creation

Some States encourage the development and commercialization of new technologies by providing their inventors and entrepreneurs with the services they need to create new firms and bring new products to market. These services include providing product and market development assistance, finding capital assistance for new products and young companies, and in some cases establishing "incubator facilities" for high-technology business starts.

- Georgia's Advanced Technology Development Center provides technical and business assistance, helps firms to find venture capital, and provides incubator space for new businesses.
- The Massachusetts Technology Development Corp. provides venture capital for firms and products that would usually be overlooked by traditional sources of capital, and it also provides assistance with business plans, management, and marketing.
- l-he Hawaii Venture Development Fund has a special "Inventor's Fund" for the development of new product ideas.
- The Connecticut Product Development Corp., which makes equity investments in existing firms, has recently set up an Innovation Development Loan Fund to fund the development of innovative projects.

Strategies Focused on Expanding Production and Mature Industries

Instead of targeting the early stages of the innovation and firm creation processes, some States concentrate on attracting the assembly facilities of expanding or relocating high-technology firms, or on transferring and applying new production technologies to help firms in mature industries.

Attracting Production Facilities.–Some States, aware of their limited R&D capability or skilled labor pool, are instead trying to attract the production of more standardized high-technology goods in the State. These States pursue expanding and relocating high-technology firms in much the same way that they recruit more mature industries, through promotional programs and through location assistance and tax incentives. Alabama's New and Expanding Industry Program is an example of such an initiative; similar strategies to attract high-

technology expansion and relocation are being used in Delaware, Idaho, and Puerto Rico.

Process Development and Application.–The "high-technology" strategy in many States emphasizes technology transfer-the application of new production technologies to the manufacturing processes in mature industries already located in the State. By increasing the efficiency and productivity of the existing industrial base, these programs may strengthen and retain facilities and jobs that might otherwise leave the State or the country. Maine's New Enterprise Institute, for instance, helped to introduce technologies like computer-assisted design and manufacturing to the shoe industry, and Michigan has established an Industrial Technology Institute to promote the development and application of robotics in the automotive and other mature industries. Similar programs are underway at the Mississippi Research and Development Center, the Arkansas University-Industry Experimental Center for Small Manufacturers, and the Texas Engineering Experimental Stations.

Other Approaches

Some State strategies have aimed at developing integrated markets within the State, thereby providing the opportunity for new high-technology industry to produce for and obtain inputs from existing industry. Examples of this approach are Michigan's emphasis on robotics, both as a new manufacturing sector and as an input to the automotive industry, and Arizona's attempts to encourage the growth of high-technology support industries.

A few States have placed their general industrial development emphasis on technology appropriate to unique State needs, and are not making a concerted effort at this time to attractor develop high-technology industry. Alaska, for example, has a limited manufacturing base and special application needs in most technologies.

Finally, several States have attracted "spillover" high-technology industry without a concerted effort by their governments. These States include Colorado, Oregon, Arizona, Washington, and New Hampshire. Each of them maybe a desirable place to live and do business, but in each case they also have-the advantage of proximity to a growing center of high-technology development—apparently a great advantage in attracting branch plants.

APPENDIX

Directory of State High-Technology Strategies and Programs*

Alabama

Alabama's overall strategy is based on developing the primary industry and infrastructure needed to attract high-technology development. To do this, the State has set up a new and expanding industry program, technical and managerial training programs, and a pension fund with bond issues for business. The State's community college system also provides programs for training and retraining technical workers. In addition, the State uses several Federal programs, such as Community Development Block Grants, to develop the infrastructure needed for growth and development.

Alabama reports a good supply of engineers and technicians and a large number of high-technology support industries. It also has a considerable base to build on in the Huntsville area, which boasts some 200 high-technology manufacturing firms and several advanced research programs at the University of Alabama at Huntsville. Other centers of high-technology research are Birmingham, Auburn, and Tuscaloosa.

Programs

Labor/technical assistance

Alabama Industry Development Training Program

General industrial development

Alabama New and Expanding Industry Program

Alabama Industry Development Training Program

Mr. Michael McCain
Assistant Director
Alabama Development Office
State Capitol
Montgomery, AL 36130
(205) 832-6980

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

Labor/technical assistance.

Program services:

Trains technical staff for business.
Technical training provided by State.

Description:

This State-funded program includes training for both technical and managerial personnel, and is free to new or expanding businesses. The program meets requirements on a firm-by-firm basis and provides screening of personnel, on-the-job training to business specification, upgrading or renewal of skills, and mobile classrooms and workshops.

Alabama New and Expanding Industry Program

Mr. Michael McCain
Assistant Director
Alabama Development Office
State Capitol
Montgomery, AL 36130
(205) 832-6980

Date of establishment: N/A
Annual State funding (millions): N/A

Program **type:**

General industrial development

Program services:

Abatement of local property tax.
Freeze tax on improved property.
Exemption from State sales tax.

Description:

The Alabama development office offers many services to new and expanding industry, some of which are also part of the general industrial development network. This program works with the Industrial Training Program to provide training services to meet the needs of individual firms. The State gives grants for industrial site development, has a one-stop permitting agency, and can provide 100 percent Industrial Revenue Bond (IRB) financing on land, buildings, and equipment. IRB projects and business inventory may qualify for certain tax exemptions for up to 20 years.

Alaska

Alaska's overall strategy involves the development of technological solutions for the unique problems faced by a "frontier" State. For example, the State is a leader in implementing advanced telecommunications technology,

*This directory is based on information provided by the States, in conversation and writing, between November 1982 and February 1983.

largely because of the vast distances between cities and the subsequent isolation of its people. The State government is investing oil and gas revenues in renewable resources, such as agriculture and fisheries, that will diversify Alaska's economy and minimize its dependence on the boom/bust cycle characteristic of extraction industries. In addition, Alaska has several programs designed to encourage the development of specific technologies such as housing for permafrost areas, ice-strengthened research vessel, and avalanche forecasting, as well as the application of existing technologies to Alaskan problems.

Programs

Capital provision assistance

Alaska Council on Science and Technology
Alaska Resources Corp.

Alaska Council on Science and Technology

Mr. Christopher Noah
Executive Director
Office of the Governor
Pouch CV
Juneau, AK 99811
(907) 465-3510

Date of establishment: 1978
Annual State funding (millions): $0.8

Program type:

Capital provision assistance.

Program services:

Grants available.
State resource promotion.

Description:

This State program is designed to advise the Governor and the legislature on technological and research matters. In particular, the Council concentrates on energy programs and on telecommunications policy.

The Council administers two research grant programs for development of technology. One is the Northern Technologies Program, which provides grants for the development of technology appropriate to the region. To date the program has funded 115 projects for up to $5,000 each. Most are energy-related projects.

The second research grant program (using a National Science Foundation program as a model) provides funds for the development of technology suitable to northern climes. This research grant program has also worked closely with the Canadian Science Advisory Board of the Northwest Territories.

Alaska Resources Corp.

Mr. Wayne Littleton
Executive Director
Alaska Resources Corp.
Government Bldg.
Anchorage, AK 99811
(907) 561-2210

Date of establishment: 1982
Annual State funding (millions): $40

Program type:

Capital provision assistance.

Program services:

Direct investment in startup.
Equity loans.
Venture capital.

Description:

The Alaska Resources Corp. (ARC) (reconstituted in 1982 from the Alaska Renewable Resources Corp.) provides development capital for establishing and expanding small enterprises in resource industries, to diversify and stabilize the State's economy. Targeted industries are tourism, fisheries, timber, and manufacturing enterprises.

This program uses a broad definition of "venture capital" in order to serve the diverse needs of a frontier State. This program will help start any type of business, although most businesses served thus far are commercializing or developing ideas for alternative energy sources.

Arizona

Arizona already has a well-established high-technology base, consisting of some 200 establishments—many of them branches of firms elsewhere—that represent over 40 percent of the State's industrial base. This development has occurred with relatively little direct intervention by the State government programs or initiatives, but Arizona has begun to explore possible mechanisms for retaining existing industry and encouraging the growth of indigenous firms. As part of this effort, the State recently issued a report on *Opportunities in Arizona for Suppliers* ofIfigh-Technology Manufic turers, which targets desirable high-technology support industries and discusses the availability of skilled labor for microelectronics, computers, and other high-technology areas.

In addition, the State has placed emphasis on the development of a strong, technically based education system that can work closely with private industry. The Center of Excellence at Arizona State University

(Tempe), for example, works closely with business to improve science, mathematics, and engineering instruction.

Programs

High-technology education

Center of Excellence

Capital provision assistance

Arizona Development Services

Labor/technical assistance

Governor's Manpower Program

General industrial development

Arizona Economic Development Program
Arizona Development Services

Arizona Development Services

Mr. John O. Morales
Program Manager
Office of Economic Planning and Development
1700 W. Washington St., 4th Floor
Phoenix, AZ 85007
(602) 255-5705

Date of establishment: 1980
Annual State funding (millions): N/A

Program type:

Capital provision assistance.
General industrial development,

Program services:

Licensing assistance.
Assists in finding venture capital.
Loans.

Description:

This Arizona program works closely with the Federal Small Business Administration 503 program. The program provides lists of licensing requirements for each Arizona community as a reference to new or relocating business. It also helps new or relocating business obtain licenses and explains the local and State tax structure, sales taxes, and city ordinances.

In addition, the program will help businesses find venture capital, and is trying to attract venture capital to the State. Finally, the office plans a Center for Innovation, and intends to maintain an information clearinghouse for small business information.

Arizona Economic Development Program

Ms. Judie Scalise
Program Manager for Economic Development
Office of Economic Planning
1700 W. Washington St., Suite 400
Phoenix, AZ 85007
(602) 255-5374

Date of establishment: 1962
Annual State funding (millions): $0.180

Program type;

General industrial development.

Program services:

State resources promotion.
Assists in finding venture capital.
Labor assistance.
Physical plant provision.
Information dissemination.
Links industry with university.
Market development assistance.

Description:

The high-technology industry base in Arizona has been created with few explicit State government incentives. Since nearly 40 percent of all manufacturing is in the high-technology sector, Arizona has begun to consider support mechanisms for new and existing high-technology industry.

The State office also works closely with a number of Federal Government programs such as the Small Business Administration (SBA) 503.

There are no tax rebates or "holidays" offered to business, mainly because the State considers the existing tax climate favorable for business. The existing tax structure includes no inventory tax, no corporate franchise tax, and allows tax-exempt dividends for firms based in Arizona.

A joint position statement between this office and the community colleges in Arizona links education, training and employment resources to the State in an effort to further high-technology development.

Center of Excellence

Dr. Charles E. Backus
Director, Center for Research
College of Engineering and Applied Science
Arizona State University
Tempe, AZ 85287
(602) 965-1725

Date of establishment: 1980
Annual State funding (millions): $1.4

Prograrn type:

High-technology education.

Program services:

Links industry with university resources.

Description:

The Center of Excellence has coordinated with a proposed State program for Academic Excellence recently initiated by the State. Six proposals were given by the Governor to the State Board of Regents and Board of Education to provide the following:

1. higher admission requirements for math and science in the State universities,
2. math and science centers at the universities for outstanding high school students,
3. a student loan program to encourage more math and science teachers,
4. summer science and math institutes for teachers,
5. computer literacy as a requirement for State teacher certification, and
6. "team-teaching" efforts between educators and industry specialists.

The Center of Excellence represents public/private investment of $32 million, of which the State has donated funds for a new building and equipment for the engineering school.

Governor's Manpower Program

Mr. Alton J. Washington
Governor's Manpower Program
Arizona Office of Economic Planning and Development
1700 W. Washington St., 4th Floor
Phoenix, AZ 85007
(602) 255-5434

Date of establishment: 1977
Annual State funding (millions): -O-

Program type:

Labor/technical assistance.

Program services:

Training and employment resources.
Grants for training.
Information dissemination.

Description:

The Office of Economic Planning and Development supports a major job training effort called the Manpower Program. It has recently published the Arizona Training Profiles, which supply Arizona employers and potential employers with information in occupational education and training available to meet their employee requirements. Two of the areas, "electronics" and "data processing and computer science" are occupations in demand.

Arizona does not have any quick start money for training, so the program was set up initially with Federal Comprehensive Employment and Training Act (CETA) funding. "Manpower" custom designs a training program on a firm-by-firm basis.

Manpower has undertaken several projects to investigate opportunities for high-technology managers and to research information processing training needs. Man" power links university resources with industry, and can provide a list of high-technology firms with 25 or more employees.

In addition to the ongoing work of the Center of Excellence, the State has provided funding for five short-term, competency-based, curriculum development and validation projects, designed to train workers in skills required by high-technology industries. Utilizing CETA funds, training will be in the following occupational areas: electronics, data entry/word processing, computer programing, and automated accounting.

Arkansas

There is considerable support for high-technology development in Arkansas, but also for increased productivity in traditional industries. Arkansas sources sometimes point out that it is a newly industrialized State and, like many other Southern States, its industry has its headquarters and research facilities elsewhere, while Arkansas labor is used primarily in production and shipping of manufactured goods, As one State official put it, "High-technology? By the time it gets here it is like any type of assembly industry. " The State has therefore adopted a policy of encouraging innovation in all types of firms. It does this through a number of programs that provide firms with financial, technical, and training assistance. A recent task force of government officials and high-technology experts identified the State's educational institutions as a valuable asset, and encouraged a continued emphasis on quality education.

Programs

Capital provision assistance

Industrial Research Extension Center

Labor/technical assistance

A University-Industry Experimental Center for Small Manufacturers
Industrial Development Corp.
Industrial Research Extension Center

General industrial development

A University-Industry Experimental Center for Small Manufacturers

Industrial Development Corp.
Industrial Research Extension Center

A University-Industry Experimental Center for Small Manufacturers

Mr. J. P. Moore
Director of Extension Activities
University of Arkansas at Little Rock
33d and University, Rm. 417
Little Rock, AR 72204
(501) 371-1971

Date of establishment: 1978
Annual State funding (millions): $0.05

Program type:

General industrial development.
Labor/technical assistance.

Program services:

Information dissemination.
Trains technical staff for business.
Market development assistance.
Assists in finding venture capital.
Physical plant provision.

Description:

This program is jointly sponsored by the National Science Foundation and the State of Arkansas. It is set up to introduce state-of-the-art technology into traditional industrial processes in all industries in need of help, including new starts, expansions, and stabilizations. The services include production assessment, evaluation of layout and design efficiency, advice in technical manufacturing, and assistance in finding capital for new developments. The program does not provide any funding for new ventures.

Arkansas Industrial Development Corp. (AIDC)

Mr. Windell Adams
Director
Arkansas Industrial Development Corp.
One State Capital Mall
Little Rock, AR 72201
(501) 371-2301

Date of establishment: 1955
Annual State funding (millions): $3.5

Program type:

General industrial development.
Labor/technical assistance.

Program services:

Information dissemination.
State resources promotion (infrastructure).

Description:

The AIDC program seeks to assist "home grown" businesses within the State, and to help firms relocate to the State. Arkansas does not provide any venture capital or business loans, but the First Arkansas Development Finance Corp. puts together State and commercial money for fledgling organizations. The Board of Directors of AIDC has both State and private sector representatives.

In addition to its day-to-day work, this State office has conducted some seminars to bring together industry and education on an informal basis. Also, AIDC took part in the Legislative Council Task Force chaired by Ray Thorton of Arkansas State University, to "study educational and research resources within the State which would be useful in providing highly technical and scientific instructional and research programs." Conclusions of this Task Force included the realization that high-technology industrial development will only come about because of the development of other basic industries and infrastructures.

Arkansas Industrial Research Extension Center

Dr. Barton Westerlund
Director, Industrial Research Extension Center
University of Arkansas at Little Rock
College of Business Administration
33d and University, Rm. 417
Little Rock, AR 72204
(501) 569-3470

Date of establishment: 1955
Annual State finding (millions): $1.2

Program type:

Capital provision assistance.
General industrial development.
Labor/technical assistance.

Program services:

Labor assistance.
Loans.
Investment capital.
Tax-favorable business climate.
Venture capital assistance.
Product development assistance.
Information dissemination.
Grants available.
State resources promotion.
Market development assistance.

Description:

The Industrial Research Extension Center (TREC) is set up to provide economic research and information to the State development agencies, both public and private.

This consists of educational programs and research, counseling of various types, projection studies, demographic studies, income studies, feasibility studies, and market studies. For small businesses in the State, IREC provides production analysis, accounting assistance, and financial analysis. IREC has field offices in five cities in the State, and is linked to nine institutions in the State. Set up by legislative mandate, the program is located and integrally part of the State university system, although they maintain a separate budget.

IREC handles all kinds of businesses, and are seeing more and more advanced technology innovation in the State. The Director notes, however, that "by the time it gets here, it is like any type of assembly industry, with similar types of low-skilled manufacturing jobs. We have spent some time with innovating firms who try to move into higher technology manufacturing processes, but what often starts out as 'high tech' quite quickly becomes standard manufacturing procedure. " Of his clients, Dr. Westerlund goes on to say, "We have fewer and fewer dealings with 'Mere and Pop' and more with minicomputers to be installed in gas stations. Perhaps its that Mom and Pop are becoming more sophisticated."

California

California is renowned as a center of high-technology development. It has a highly advanced industrial base, capital resources to fund new ventures, and the technically skilled labor to meet the needs of quickly changing technologies. Under the previous administration, the State government set up several programs to encourage technological innovation and further development. These included the California Commission on Industrial Innovation, a Pension Investment Unit that invested in high-technology ventures, and the California Innovation Development Loan Program, which was designed to promote product development. The Commission, however, ceased to exist after producing case studies of "winning technologies," and both of the other programs have been discontinued under new State administration.

California's public and private universities have worked closely with industry to develop the technically skilled work force needed for economic development. This trend is expected to continue. In addition, the State's training programs will continue to train technicians for industry.

Programs

High-technology development

California Innovation Development Loan Program

Capital provision assistance

California Innovation Development Loan Program

Labor/technical assistance

California Worksite Education and Training Act (CWETA)

Microelectronics Innovation and Computer Science Research Program (MICRO)

California Innovation Development Loan Program

Ms. Christie Campbell
Director
Innovation Development Loan Program
1030 13th St., Suite 200
Sacramento, CA 95814
(916) 322-1394

Dare of establishment: 1981
Annual State Funding (millions): $2.0

Program type:

Capital provision assistance.
High-technology development.

Program set-vice:

Investment in product development.

Description:

This program provides financing for product development to promising technology-based firms. The recipients of the loans are generally entrepreneurs and inventors who have had difficulty finding finding from other more traditional sources.

California Worksite Education and Training Act (CWETA)

Ms. Charlsey Cartwright
Director
CWETA
800 Capita! Mall, MIC 38
Sacramento, CA 95814
(916) 323-3006

Date of establishment: 1980
Annual State funding (millions): $10.0

Program type:

Labor/technical assistance.

Program services:

Links industry with university resources.
Trains technical staff for business.

Description:

CWETA established a program in which potential employers commit to hire CWETA-trained workers. Training programs are devised in conjunction with local educa-

tion and training institutions, with much of the training taking place on the job. Both entry level and upgrade training are provided in fields which include electronics, machine trades, and health.

Microelectronics Innovation and Computer Science Research Program (MICRO)

Dr. James Albertson
Associate Vice President for Academic Affairs
University of California
733 University Hall, 2200 University Ave.
Berkeley, CA 94720
(415) 642-9786

Date of establishment: 1981
Annual State funding (millions): $2.0

Program type:

High-technology education.

Program services:

Links industry with university resources.
Grants for research.
Grants available.

Description:

The 1981-82 University of California budget included $980,000 for "innovative research in microelectronics technology, its application in computer information sciences, and its necessary antecedents in other physical science disciplines. " The program is intended by the State to assist the California electronics and computer industries in maintaining their competitive edge by expanding pertinent research and graduate student education at the University. Under the research part of the program, faculty members on several campuses submit proposals for research projects that will potentially form the basis of new industrial products several years in the future, Each faculty member is responsible for obtaining a prior commitment from an industrial firm to support at least half the cost of the project.

Colorado

Colorado has a good base in high-technology industry, and in secondary industries supplying the inputs for high-technology manufacturing. This development has been accomplished largely without the intervention of the State government. INC. *Magazine,* in its "Report Card on the States," identified Colorado as one of the four or five most desirable States for high-technology industry. Many Coloradans do not see such development as an "economic panacea," but the State has set up a task force m look at the issue of innovation in national and international markets and in the educational sector. In addition, legislation is pending on the creation of" a Colorado Tec hnology Institute, although economic constraints make passage uncertain in 1983.

Colorado also has the active participation of the private sector in the development of high-technology industry. The Colorado Business Development Center, the Higher Education Council of the Colorado Association of Commerce and Industry, the Institute for Computational Studies, and Worker Outreach, all provide assistance in technology-based economic development.

Programs

High-technology development

High-Technology Cabinet Council

High-technology education

Colorado Electronics Institute

Labor/technical assistance

Jobs for Coloradans

General industrial development

Colorado Division of Commerce and Development

Colorado Division of Commerce and Development

Mr. Steve Schmitz
Director
Department of Commerce and Development
1313 Sherman St.
Denver, CO 80203
(303) 866-2205

Date of establishment: 1982
Annual State funding (millions): N/A

Program type:

General industrial development.

Program services;

Location assistance.
Licensing assistance.
Investment assistance.

Description:

The Division of Commerce and Development has a long history of providing staff and financial assistance to businesses seeking a new location. Many times, this involves working with a new manufacturing process or product, helping to identify a labor base, the best location for specific resource needs, and assistance in compliance with local ordinances.

Colorado Electronics Institute

Senator Al Meiklejohn
State Capital Bldg., Rm. 127
Denver, CO 80203
(303) 8664866

Date of establishment: 1982
Annual State funding (millions): $4.0

Program type:

Legislation.

Program services:

Links industry with university resources.

Description:

A bill (S. 01) has been introduced in the 1983 Colorado General Assembly for the establishment of a Colorado Advanced Technology Institute to promote, develop, and coordinate education and research programs in fields of advanced technology. The Institute will seek to improve the quality and quantity of graduates from Colorado institutions of higher education in fields of advanced technology, to further the research capabilities of Colorado institutions of higher education, to provide incentives to attract and retain superior faculty members, and to enhance the economic health of Colorado by encouraging investment by both governmental and private sources in educational programs which promote advanced technology education and research and development.

Governor's Science and Technology Advisory Council

Mr. Leonard Slosky
Assistant to the Governor for Science and Technology
State Capital Bldg., Rm. 127
Denver, CO 80203
(303) 866-2471

Date of establishment: 1975
Annual State funding (millions): -O-

Program type:

Legislation.

Program services:

Task force.

Description:

Technology development activity in Colorado has occurred largely without active State government involvement. The Governor's office established this task force to explore ways to attract technology to the State, a top issue for the Governor in the coming year. The task force is to address the issue of moving innovation to the marketplace by looking at educational and international economic issues.

High-Technology Cabinet Council

Mr. Leonard Slosky
Assistant to the Governor for Science and Technology
Governor's Office
State Capitol Bldg.
Denver, CO 80203
(303) 866-4579

Date of establishment: 1983
Annual State funding (millions): N/A

Program type:

High-technology development.

Program services:

Task force.

Description:

This Council is set up to coordinate the activities of the Colorado government intended to promote high-technology development in the State. The Council will prepare a Colorado strategy to encourage high-technology industrial development in the State, including coordination of research and development efforts, education and training, and private sector initiatives.

Jobs for Coloradans

Mr. Steve Schmitz
Director
Department of Commerce and Development
1313 Sherman St., Rm. 500
Denver, CO 80203
(303) 866-2205

Date of establishment: 1982
Annual State funding (millions): $0.150

Program type:

Labor/technical assistance.

Program services:

Technical training provided by the State.

Description:

This program is setup to meet the changing labor needs of industry, and train State people for jobs. A dislocation or training need is identified by State staff or through negotiations between local governments, area vocational schools or community colleges. Upon identification of specific skill areas, employment and training agencies organize and implement specific training programs. In addition, this program works closely with the Worker Outreach Program, a privately run program, which screens and places individuals for technical occupations.

Connecticut

Connecticut has a major stake in high-technology industrial development and has become a leader in the development of State government programs to encourage it, It ranks first in the percentage of manufacturing jobs in high-technology areas, and this percentage is growing. State officials attribute Connecticut's success in attracting and incubating high-technology industry to a number of coincidental factors, including: a strong industrial base; a large, well-educated labor pool; proximity to a large export center; an above-average system of higher education; and access to venture capital.

To foster and retain this growth, the State government has created over the past 20 years a number of programs targeted on the creation and success of high-technology firms. The major goals of these programs include: creation of new jobs; expansion of existing industry; retention of existing industry; creation of new ventures; and diversification of the State's economic base. The Governor recently established a State High-Technology Coun--cil, which will focus its attention on the State's educational resources, and proposed a "high-technology strategy" for 1983 that includes funds for job training, increased funding for the Connecticut Product Development Corp., and funds for education programs in vocational and higher education.

The State government also has the organized participation of the private sector through the Cambridge Research and Development Group (CRDG), founded in 1965. The principal mission of CRDG is to identify and exploit patentable new products that represent outstanding business opportunities for Connecticut companies.

Programs

High-technology development

Connecticut Innovation Development Loan Fund
Connecticut Product Development Corp.
Science Park

Capital provision assistance

Connecticut Enterprise Zones
Connecticut Innovation Development Loan Fund
Connecticut Product Development Corp.
Science Park

General industrial development

Connecticut Department of Economic Development
Connecticut Enterprise Zones

Connecticut Department of Economic Development

Mr. John Carson
Commissioner
Department of Economic Development
210 Washington St.
Hartford, CT 06106
(203) 566-4094

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

General industrial development.

Program services:

Abatement of local property tax.
Training vouchers for new jobs.
Exemption from State sales tax.

Description:

The Connecticut Department of Economic Development is working on a project called "Take Care of Your Own)' to look after the needs of existing industry in the State. The Office reports that Connecticut has had the high-technology industry advantage all along, mainly because of its diversified economic climate. The State claims 40 percent of Connecticut's manufacturing work force is in high-technology industry, and that the State leads the Nation in the number of patents granted and in the number of research and development laboratories. There is a broad mix of economic sectors, including a well-trained and educated work force.

Aside from being the home of many major manufacturers, Connecticut offers Industrial Revenue Bonds, a working capital loan program, industrial park networks for land acquisition, no State income tax, and a general program of recruitment.

Connecticut Enterprise Zones

Mr. Ken Roberts
Director
Connecticut Department of Economic Development
210 Washington St.
Hartford, CT 06106
(203) $66-3308

Date of establishment: N/A
Annual State funding (millions): $1.0

Program type:

Capital provision assistance.
General industrial development.

Program services:

Enterprise zones.
Long-term, low-interest loans.
Industrial revenue bonds.
Physical plant provision.

Description:

Six enterprise zones, in underdeveloped parts of the State in need of economic revitalization, have been named to date. The Enterprise Zone office has available a $1 million revolving loan fund to help establish new or expanding businesses within the newly created zones. The emphasis is on high-technology business development.

Connecticut Innovation Development Loan Fund

Mr. Thomas Munson
Director
Innovation Development Loan Fund
93 Oak St.
Hartford, CT 06106
(203) 566-2920

Date of establishment: 1981
Annual State funding (millions): $2

Program type:

Capital provision assistance.
High-technology development.

Program services:

Grants for development.
Loans with stock or royalty rights.
Market development assistance.

Description:

This organization, recently funded by the Federal Economic Development Agency, aims to speed the diffusion of innovation. It will work closely with the Connecticut Product Development Corp. (CPDC), taking over where CPDC leaves off in the development of an innovative product within an established company. In addition, CDPC and CIDP are considering providing venture capital to new starts.

Connecticut Product Development Corp. (CPDC)

Mr. Thomas Munson
Director
Connecticut Product Development Corp.
93 Oak St.
Hartford, CT 06106
(203) 566-2920

Date of establishment: 1975
Annual State funding (millions): $10

Program type:

Capital provision assistance.
General industrial development.

Program services:

Grants for development.
Loans with stock or royalty rights.
Investment in firm survival.
Product development assistance.
Technical support provided by State.
Assists in finding venture capital.

Description:

CPDC, although not strictly a high-technology development operation, provides financial investment to develop new products with job creation and market potential. These products are often "high-technology" products. The system is set up to receive royalty from successful products, which in 1982 provided CPDC with $3.3 million in royalty payments. At present there are 50 active projects, with 22 products already on the market. CPDC takes part in all aspects of preparing a product for market, including assisting in management plan preparation, product development, market identification and development, and examining the financial capability of a company. It does not take part in any new business starts.

While CPDC is not a government agency, the employees are on the State payroll, and the State treasury handles payment to beneficiaries. The Governor appoints the Board of Directors and advises it about State policy. CPDC works closely with the Connecticut Innovation Development Program (CIDP), set up with U.S. Economic Development Agency (EDA) funds, particularly in high-technology initiatives. Since CIDP provides venture capital, CPDC will usually refer new starts to CIDP.

Science Park

Mr. E. L. Deshong
Vice President
Science Park Development Corp.
Yale University
New Haven, CT 06106
(203) 436-2300

Date of establishment: 1981
Annual State funding (millions): $2

Program type:

Capital provision assistance.
High-technology development.

Program services:

Market development assistance.
Links industry with university resources.
Grants for development.
Physical plant provision.

Description:

Science Park is now under construction. Located within a Connecticut Enterprise Zone, Science Park will develop a large tract of land in New Haven for a community of companies engaged in the pursuit and development of new scientific and technological products, processes and related manufacturing. This project represents a joint effort between Olin Corp., Yale University, and the City of New Haven. The State has contributed $2 million to help rehabilitate a vacant industrial building in New Haven for Science Park. Olin and Yale have also independently entered into a cooperative research agreement.

Delaware

Delaware is the headquarters and research center for many of the Nation's largest businesses. However, aside from a favorable tax structure that is available to all businesses, there has been little direct effort to attract or develop high-technology business to the State. This may be changing.

Legislation has been introduced that would require that all Delaware high school graduates be computer literate. The State also sponsors community college training programs geared to skill development in electronics and science. These colleges also work with the Federal Government to help with technology transfer from colleges to industry.

Programs

General industrial development

Delaware Tax Incentives for Business

Delaware Tax Incentives for Business

Mr. David V. Brandon
Assistant Director for Business Development
Delaware Development Office, Townshend Bldg.
P.O. Box 1401
Dover, DE 19901
(302) 571-3156

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

General industrial development.

Program services:

Reduction in State corporate business tax.
Abatement of local property tax.
Freeze on assessed value of improved property.

Description:

Although there are no State programs geared specifically to the development of high-technology industry, tax incentives have been created for industry in general. In addition, the State has initiated enterprise zone legislation, allowing a city or municipality to develop an enterprise zone and a related loan fund. At present, only Wilmington has exercised the enterprise zone option. The State runs a training program through its technical and community colleges, including classes in electronics and the sciences.

Florida

Florida has developed a solid industrial base for high-technology development, particularly in the so-called "Golden Girdle" and "Silicon Coast" areas that stretch from Tampa on the gulf coast to Daytona Beach on the Atlantic and south to Fort Lauderdale and Miami. This includes a considerable amount of space-related industrial development around the Kennedy Space Center at Cape Canaveral, as well as aerospace and electronics manufacturing generally. One-fourth of Florida's manufacturing employment is in high-technology industries, according to State officials.

Florida began its focused high-technology effort in 1980 with the formation of a Governor's Task Force, which recommended special incentives targeted on industries such as defense contracting, communications, electronics, pharmaceuticals, and scientific instruments.

In the near future, the legislature is expected to consider a bill creating an umbrella program for State efforts in high-technology industrial development. Florida is constitutionally prohibited from making loans or pro-

vialing capital of any kind to private firms, but the State government is helping to start a private venture capital association. In addition, legislation was recently passed to exempt certain types of new job creation from taxes and to protect intellectual property developed under university-industry contracts.

Florida places considerable emphasis on these university-industry partnerships and has set up several government programs in this area. The University system participates in an entrepreneurship program and in a State-funded Research and Development Parks program. In recent months Florida has also announced plain to develop engineering and vocational-technical education programs and efforts to enhance in-State research and development.

Programs

High-technology development

Interagency High-Technology Committee
Research and Development Commission
Technical Entrepreneurship Program

High-technology education

Office of High-Technology and Industry

General industrial development

Bureau of Economic Analysis
Industrial/Academic Council
Industry Services Training Program

Bureau of Economic Analysis

Mr. Maury Hagerman
Economic Analysis Supervisor
Bureau of Economic Analysis
406 Fletcher Bldg.
Tallahassee, FL 32301
(904) 487-1314

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

General industrial development.

Program services:

State resources promotion (infrastructure).
Links industry with university resources.

Description:

This office works to attract new businesses into Florida and retain businesses already there. It emphasizes attracting new industry to the State rather than starting new business within the State.

The Florida Legislature has passed three laws to create incentives for business to develop facilities in traditionally underdeveloped or low-income areas. Part of this initiative was the creation of enterpise zones, wherein newly created jobs bring tax credits for salaries, tax credits for contributions to community projects, and exemption from the "school tax" portion of the development tax. This amounts to almost tax-free development over a certain number of years. In addition, four research and development parks have been or are being formed in the State, modeled after the Research Triangle in North Carolina. In addition, the University of Florida is developing an "innovation center. "

Industrial/Academic Council

Mr. Hank Hector
State University System
Florida Board of Regents
107 West Gaines St.
Tallahassee, FL 32301
(904) 488-7702

Date of establishment: 1983
Annual State funding (millions): $0.113

Program type:

General industrial development.

Program services:

State resource promotion.
Links industry with university resources.
Patent searches.

Description:

The Industrial/Academic Council, recently organized by the Board of Regents, is designed to further coordinate engineering activities within the State university system. The membership consists of user business and industrial groups, and coordinates the State Technology Applications Center, the Florida Engineering Education Delivery System and the Engineering and Industrial Experiment Station.

Industry Services Training Program

Mr. Jesse Burt
Director
Florida Department of Education, Division of Vocational Training
107 West Gaines St.
Tallahassee, FL 32301
(904) 487-1040

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

General industrial development.

Program services:

Technical support provided by the State.
Trains technical staff for business.

Description:

This program provides customized training programs for new and expanding industries funded entirely by the State. Training is implemented through local vocational-technical schools and community colleges, and is geared toward the development of skills for Florida's increasing community of high-technology industries.

Interagency High-Technology Committee

Mr. Kern Alexander
Director
Governor's Office of Planning and Budget
Carleton Bldg.
Tallahassee, FL 32301
(904) 487-1880

Date of establishment: 1983
Annual State funding (millions): N/A

Program type:

High-technology development.

Program services:

Information dissemination.
Task force.

Description:

Florida's most recent State initiative relating to high technology is the establishment of the Governor's Interagency High-Technology Committee, to plan and monitor high-technology industrial development initiatives in the State. Representatives are drawn from education, labor, and commerce agencies. This group will also coordinate the Divisions of Sponsored Research at the State universities, administering State research trends.

Office of High-Technology and Industry

Dr. Marm Harris
Department of Education
College Building
107 West Gaines St.
Tallahassee, FL 32301
(904) 487-3134

Date of establishment: 1982
Annual State funding (millions): N/A

Program type:

High-technology education.

Program services:

Technical support provided by State.
Links university with industry resources.

Description:

The Office of High-Technology and Industry was organized by the Florida Department of Education with existing resources to provide for increased State level emphasis *on* high--technology vocational training programs, particularly at the community college level. The level of State funding and specific responsibilities of the office will be determined by the 1983 Florida Legislature.

Research and Development Commission

Mr. Tim Gray
Legislative Assistant to the Secretary of Commerce
College Bldg.
107 West Gaines St.
Tallahassee, FL 32301
(904) 487-3104

Date of establishment: 1978
Annual State funding (millions): N/A

Program type:

High-technology development.

Program services:

Links industry with university resources.

Description:

The State government has set up this Commission to initiate incentives for research and development parks in association with State universities. Four parks have been established: Tampa Bay Research Park at the University of Southern Florida; Central Florida Research Park at the University of Central Florida; Florida Research and Technology Campus at the University of Florida; and Innovation Park at Florida State University and Florida A&M University. Industrial revenue bonds may be used in financing development.

Plans are currently underway at the University of Florida for the development of an incubator facility to support new high-technology companies.

Technical Entrepreneurship Program

Mr. Maury Hagerman
Economic Analysis Supervisor
Bureau of Economic Analysis
406 Fletcher Bldg.
Tallahassee, FL 32301
(904) 487-1314

Date of establishment: 1981
Annual State funding (millions): N/A

Program type:

High-technology development.

Program services:

Information dissemination.
State resources promotion.

Description:

This program, established to promote indigenous industry in Florida, mobilizes the components of the State's high-technology community. Its activities consist of:

1. organizing and leading public and private efforts to evolve State high-technology strategies,
2. supporting and acting as a catalyst to individual and joint efforts of various elements of the high-technology community to move ahead with actions supportive of State goals, and
3. continuing efforts to analyze economic growth.

The program works closely with the Florida "Venture Capital Association (a private group), and with the University of Florida in developing a prototype incubator facility and innovation center. This program will also be working closely with the Small Business High Technology Council (Washington, D. C.) to develop an entrepreneurship network.

Georgia

Georgia has a well-established State strategy to encourage the creation and growth of high-technology industry. This strategy is centered on the Advanced Technology Development Center (ATDC), jointly run by the State and the Georgia Institute of Technology. Much of the impetus for the development of ATDC came from Georgia Tech graduates who wanted to create challenging employment opportunities in the State. ATDC provides technical, financial, and management assistance in the creation of new firms, as well as information and consulting services for relocating firms. Similar centers are being developed at other universities.

The Department of Industry and Trade is working closely with the education sector and ATDC to develop a training strategy for high-technology development, and the ATDC program and the vocational training initiatives are being integrated into the State's general industrial development program. State development agencies are stressing the importance of education to meet future needs.

In addition to the joint effort at ATDC, the State has a vigorous industrial development program that is recruiting technology-based manufacturing operations such as avionics and microelectronic research and assembly plants. The State reports that high-technology ventures targeted in the future will probably involve computer software, communications, biotechnology, and solar energy.

Programs

High-technology development

Advanced Technology Development Center

High-technology education

Georgia Engineering Technology Program
Governor's High-Technology Advisory Council

Labor/technical assistance

Advanced Technology Development Center
Georgia Engineering Technology Program

Advanced Technology Development Center (ATDC)

Mr. Jerry Birchfield
Director
Advanced Technology Development Center
Georgia Institute of Technology
Atlanta, GA 30332
(404) 894-3575

Date of establishment: 1980
Annual State funding (millions): $0.420

Program type:

High-technology development.
Labor/technical assistance.

Program services:

Product development assistance.
Technical support provided by State.
Assists in finding venture capital.
Office or equipment provision.
Physical plant provision or assistance.

Description:

In 1980, the State of Georgia and the Georgia Institute of Technology established the Advanced Technology Development Center (ATDC) to provide services for developing and expanding high-technology industries. The office is independent of both the State government and the university,, but maintains strong ties and shares personnel with these offices. In addition, ATDC maintains close ties with the private venture capital community in Atlanta. Services are available to new businesses as well as to existing businesses wishing to relocate. Future plans include providing office and laboratory space on the Georgia Tech campus for the incubation of new, small business.

Georgia Engineering Technology Program

Mr. Robert Mabry
Director, Postsecondary Instructional Programs
Office of Vocational Education
17th Floor Twin Towers East
Atlanta, GA 30334
(404) 656-2547

Date of establishment: 1982
Annual State funding (millions): $8

Program type:

High-technology education.
Labor/technical assistance,

Program services:

Technical training provided by the State.

Description:

This statewide education program offers an Associate Degree in Applied Technology to answer the needs of incoming industry for skilled technicians in several technical areas. The program curriculum is developed on the State level, and administered at six community colleges. The program takes a multidisciplined systems approach to technical education given that many technologies include components from different technical skill areas. Every faculty member has 2 years of industry work experience plus academic degree.

Governor's High-Technology Advisory Council

Mr. Robert Mabry
Staff Coordinator
Office of Vocational Education
Twin Towers East
Atlanta, GA 30334
(404) 656-2547

Date of establishment: 1982
Annual State funding (millions): N/A

Program type:

High-technology education.

Program services:

Task force.

Description:

This Council, established to advise the Governor, came about largely through a recognition of the need for a program of excellent, high-technology education to attract and retain advanced technology industries, and to secure employment for students in high-technology industries. As high-technology training programs help industry as well as the State, 10 of the 12 members of the Commission are representatives of Georgia industry. The two remaining spaces are filled by a representative of the Advanced Technology Development Center, and the State Board of industry and Trade participation.

Hawaii

The Hawaii Institute of Electronics Research, chartered in 1979 to develop Hawaii's electronics research capabilities, works with the State Department of Planning and Economic Development to obtain and administer research contracts involving both private business and the faculty of the University of Hawaii. In addition, the State has targeted tropical applications of biotechnology and microelectronics as key areas of high-technology growth.

Hawaii's Governor has proposed creating a High-Technology Development Corp. responsible for identifying available land and financing to develop industrial parks devoted entirely to high-technology firms. This research and industrial effort targets alternative energy resource development, in which Hawaii is a leader.

Programs

High-technology development

Hawaii Venture Development Fund

Hawaii Venture Development Fund

Dr. Hideto Kono
Director
Department of Planning and Economic Development
P.O. Box 2359
Honolulu, HI 96804
(804) 548-8741

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

High-technology development.

Program services:

Loans–debt.
Market development assistance.
Product development assistance.
Licensing assistance.
Location assistance.

Description:

This Department has three separate projects designed to help high-technology development in the State:

1. *Inventor's Fund* (Funding: $100,000) This project provides seed loans for the development of new products. In addition to capital, the staff assists with

patent and literature searches, and in finding venture capital for business development.

2. *High-technology promotional funds.* (Funding: $l00,000)The Department has set aside funds to develop, attract, and retain high-technology industries. The staff will assist in location of new and expanding industry, provide information on tax regulations, licensing, permitting, labor, trade, and markets.
3. *Capital Loan Program.* (Funding: $1 million) This program has a high-technology focus: the staff helps identify new industries needing funds. The program provides debt financing at below market rates (currently 7.5 percent) up to $100,000. Additional funds are requested for fiscal year 1984.

A fourth effort expected to be passed in the State legislature this term is the development of a High-Technology Development Corp. set up to develop Science Parks for high-technology industries in the State. This program, like the Hawaii Institute of Electronics Research (HIER), will eventually be a private corporation, but will be initially administered through this Department.

Idaho

There are no State programs geared to the development of high-technology industry in Idaho, although the State markets itself actively to expanding companies. Like many Western States, Idaho has a lot of tax "incentives" built into its tax laws, including low property taxes and incentives for job creation and investment. In addition, the State claims the lowest energy prices in the Northwest. The State government recently convened a Task Force on capital development, and it has set up a program to use public pension funds for mortgage and business development.

Through the State Board of Education, an electronics technical training center is being established at Idaho universities with private industry funding. Teachers and equipment will be supplied by area industries to train students to meet their employment needs. Private sector initiatives include a State Marketing club set up cooperatively by business and government to help draw industry to the State. Such efforts have already attracted branch plants of microelectronics firms to Idaho. The State also works closely with the U.S. Small Business Administration, and uses CETA and block grant funds to develop the work force and infrastructure needed to strengthen its industrial base.

Programs

General industries development

Idaho State Tax Commission

Labor/technical assistance

Idaho Division of Economic and Community Affairs Industry Training Program

Idaho Division of Economic and Community Affairs

Mr. Jay Engstrom
Economic Development Specialist
Division of Economic and Community Affairs
108 State House
Boise, ID 83720
(208) 334-2470

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

Labor/technical assistance.

Program services:

Tax—favorable business climate.
State resources promotion.
Links industry with university resources.
Technical training provided by State.
Physical plant provision.
Industrial revenue bonds.
Task force.

Description:

Idaho has no State programs geared to the development of high-technology industry, although the Governor has actively marketed the State's resources to expanding corporations. The State takes advantage of Federal funding through CETA, CDBG, and other development money to improve the State infrastructure and make it more attractive to incoming business. Cities and municipalities have also been participating actively in this area.

The State recently convened a Task Force on Capital Development to discuss State resource promotion. A private sector "State Marketing Club" is being set up with members from business and government-to promote the resources of the State to businesses outside the State.

Idaho reports many tax "incentives" built into an already low tax base and claims to be the lowest indebted State in the Nation; the property tax is 1 percent and incentives have been created for job creation and investment (see Tax Commission program).

Idaho State Tax Commission

Mr. Larry G. Looney
Chairman
Idaho State Tax Commission
700 West State St.
Boise, ID 83720
(208) 334-4624

Date of establishment: 1945
Annual State funding (millions): $11.7

Program type:

General industrial development,

Program services:

Tax—favorable business climate.
Training vouchers for new jobs.
Labor assistance.
Reduction in State corporate business tax.

Description:

The 1982 Idaho Legislature approved and Governor John Evans signed into law a tax incentive package allowing an investment tax credit. The law provides a 3 percent tax credit for new investments made instate, not to exceed 50 percent of the tax liability for the taxable year. A carry-over provision of up to 5 years is included. In addition, the Job Expansion Act of 1982 offers Idaho businesses a tax credit for hiring new employees. This credit is limited to $500 the first year, $300 the second year, and $100 the third year for each new employee hired. The law is retroactive to January 1, 1982.

Industry Training Program

Dr. Larry Sellend
State Administrator
Department of Vocational Education
650 West St.
Boise, ID 83720
(208) 334-3210

Date of establishment: 1978
Annual State funding (millions): N/A

Program type:

Labor/technical assistance.

Program services:

Training provided by the State.

Description:

This program assists businesses in new and expanding industries to train personnel for growing needs. The program provides "customized" training through the State's postsecondary vocational-technical education system. Training programs to meet new specific needs can be operational in a short time. The program is available for industries new to Idaho and for expansion of business and industries already in the State.

Illinois

The task force appointed by the Governor in 1981 identified four high-technology industries central to I1linois' economic development: electronics, biotechnology, materials technology, and robotics. In addition, it recommended that the State develop a network of high-technology facilities associated with university and industrial centers. This task force has been replaced by a permanent Commission on Science and Technology with representatives from banking, business, labor, education, and government. The Commission's goal is the development of long-range economic goals and the implementation of the task force's recommendations.

Illinois' strategy for economic development is to publicize the advantages of the State to attract high-technology growth companies, but it will also encourage new and expanding firms within the State. Like other heavily industrialized Midwestern States, however, Illinois also needs to retain and strengthen traditional industry while diversifying into high-technology areas. The State reports that development is building on existing strengths: good transportation, a skilled work force, a network of universities and scientific research facilities, and good educational and vocational training systems.

Part of this effort includes retraining workers for new skill areas *and* setting up a biomedical research park in Chicago. The State is also working closely with the Federal Government to develop a High-Technology Training Assistance Program, designed to provide technicaI skills for economically disadvantaged students. Education sector initiatives include a Microelectronics Center at the University of Illinois, set up to conduct basic research in electron beam lithography.

Programs

High-technology Development

Biomedical High-Technology Research Park
Faculty Research Assistance to the State
Governor's Commission on Science and Technology

High-technology education

Biomedical High-Technology Research Park

Capital provision assistance

Illinois Industrial Development Authority

Labor/technical assistance

Faculty Research Assistance to the State
High Impact Training Services
Illinois Industrial Training Program

General industrial development

Illinois Industrial Development Authority

Biomedical High-Technology Research Park

Mr. Norm Peterson
Executive Director
Governor's Commission on Science and Technology
310 South Michigan Ave., Suite 1000
Chicago, IL 60604
(312) 793-3982

Date of establishment: 1982
Annual State funding (millions): $1

Program type:

High-technology development.
High-technology education.

Program *services:*

Links industry with university resources.
Physical plant provision.

Description:

The 46-acre high-technology Park is being established to promote the development of high-technology industry in the Chicago metropolitan area and in Illinois, and to strengthen the partnership between high-technology businesses and higher education.

Initial capital of $1 million was provided by the State of Illinois to enable the university to lease an incubator facility building. The State has agreed to provide the University with $10 million to purchase the building. The City of Chicago has agreed to provide both planning and construction of the infrastructure in the Park.

Leases in the incubator building are mainly for fledgling firms. Land leases for firms desiring to build their own facilities would be long-term. The Park has no specific written criteria for occupants at this time. Park occupants are expected to be businesses or organizations which will benefit from location in proximity to universities and their human and physical resources.

The Chicago area universities anticipate a high degree of faculty participation in the many facets of the Park's operation, ranging from research consultation to the provision of faculty expertise in other areas to assist Park occupants (e.g., architectural design, securing of venture capital, etc.) A full range of services can be provided, from library and computer facilities to conference facilities and catering.

Faculty Research Assistance to the State (FRATS)

Mr. Richard A. Zollinger
Director, FRATS Institute of Government and Public Affairs, University of Illinois
1205 W. Oregon St.
Urbana, IL 61801
(217) 333-8770

Date of establishment: 1982
Annual State finding (millions): $0.082

Program type:

High-technology development.
Labor/technical assistance.

Program services:

Information dissemination.
Links industry with university resources.

Description:

The FRATS program provides an on-line computerized information file of faculty research capabilities and scholarly interests. The data base is a resource accessible to participating campuses and businesses in need of obtaining information on research capabilities and personnel. The FRATS program provides a method by which individuals/universities/businesses can receive broad and rapid access to faculty research and teaching capabilities in areas of interest, including science and technology, economic development, and employment training. During 1983, 4,500 faculty profiles will be collected and entered on-line into the data base.

Governor's Commission on Science and Technology

Mr. Norm Peterson
Executive Director
310 S. Michigan Ave., Suite 1000
Chicago, IL 60604
(312) 793-3982

Date of establishment: 1981
Annual State funding (millions): N/A

Program type:

High-technology development.

Program services:

Task force.
Information dissemination.
State resources promotion.
Investment capital.

Description:

This 31-member Commission was appointed by the Governor to carry out the recommendations of the State

Task Force (which presented recommendations to the Governor on March 24, 1982) to develop the State's high-technology effort. The Task Force targeted four industries as central to Illinois development: electronics, biotechnology, materials technology (coal processing), and robotics. The overall recommendation of the Task Force was that the State should develop a network of high-technology facilities associated with various universities and other centers of technical excellence throughout Illinois. As a result, the State established Chicago's biomedical research park in September 1982, and plans to develop a $5.3 million Microelectronics Center at the University of Illinois (Urbana/Champaign).

In addition, an Illinois Growth Investment Fund is being established to provide seed capital to help finance new product development. The Fund will finance small technologically innovative enterprises during their initial formation and early development stages.

Specific investment criteria for the Fund will be established. These will include, for example, financial support for companies that are located or agree to be located in Illinois, have products or services sufficiently innovative to have a potential market advantage, have adequate management and technical support, and offer the potential for significant job creation and long-term growth.

High Impact Training Services

Mr. Jack Williams
Director
Illinois State Board of Education
100 North First St.
Springfield, IL 62777
(217) 782-5098

Date of establishment: 1978
Annual State funding (millions): $1.65

Program type:

Labor/technical assistance.

Program services:

Technical training provided by State.

Description:

The High Impact Training Services (HITS) program offers "customized" training on a firm-by-firm basis. The Illinois State Board of Education cooperates with the Department of Commerce and Community Affairs, Illinois State Chamber of Commerce, Board of Education, and the Illinois Community College Board in offering these services. HITS, funded from State and Federal vocational dollars, is intended to bridgc the gap between long-term, in-school vocational training programs and the immediate short-term job training needs of business and industry. It provides financial assistance for local educational agencies to design and conduct job training programs. The program is available to any business or industry that is expanding, permanently increasing personnel levels through additional work shifts, and/or facilities in excess of normal growth or turnover.

Illinois Industrial Development Authority

Mr. Lee Roy Brandon
General Manager
Illinois Industrial Development Authority
P.O. Box 397
Marion, IL 62959
(618) 997-6318

Date of establishment: 1968
Annual State funding (millions): $Bond

Program type:

Capital provision assistance.
General industrial development.

Program services:

Enterprise zones.
Industrial revenue bonds.
Loans.

Description:

The Authority helps create new jobs or retain existing jobs within labor surplus areas of the State. The Authority concentrates its assistance on the projects designed to create the maximum number of new jobs.

The Authority's two part effort consists of: 1) direct loans for periods up to 25 years, ranging from $10,000 to $150,000; and 2) issuing industrial revenue bonds on behalf of qualified applicants. The Authority may not have outstanding at any one time, bonds and notes in an aggregate principle amount exceeding $1 billion. No more than one-third of the total principle amount of bonds and notes as authorized by the Illinois General Assembly are issued for the development, construction, acquisition, or capital improvements of commercial facilities. One hundred million dollars of the total authorized bonding power is reserved for use in Enterprise Zones as established by the Illinois Department of Commerce and Community Affairs.

Illinois Industrial Training Program

Mr. Chuck Baker
Department of Commerce and Community Affairs
320 W. Washington St., 5th Floor
Springfield, IL 62706
(217) 785-3206

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

Labor/technical assistance.

Program services:

Trains technical staff for business.
Technical training provided by State.
Links industry with university resources.
Physical plant provision.

Description:

The Department of Commerce and Community Affairs administers the Illinois Industrial Training Program (ITP) to help Illinois industries expand and to assist industries locating in Illinois. ITP pays firms a portion of the salaries of new workers while they are being trained. ITP can be used to improve the skills of currently employed workers and to support on-the-job training in a wide range of skill areas. ITP? activities can be coordinated with CETA programs. To qualify for ITP funds, a firm must be planning an expansion or permanent increase in production that requires additional personnel. Such expansion can take the form of additional work shifts and/or facilities in excess of growth.

Indiana

Indiana is setting up a program to answer the specific technology development needs of the State. The State effort includes the Corp. for Innovation Development, a not-for-profit organization set up in 1982 with funds provided through a foundation. The 24-member board of directors includes representatives from business, government, and education. The Corporation provides capital assistance to promising innovations, makes public policy recommendations and designs programs to encourage further development of science and technology in educational institutions and the industries within the State.

The government plans to work closely with existing industries to provide a favorable economic climate and to encourage the growth of new industry within the State. In addition, plans are in the works to develop industry-university cooperative resources in research and development.

Programs

High-technology development

Corporation for Science and Technology

Capital provision assistance

Corporation for Science and Technology

Labor/technical assistance

Laser and Electro-Optics Technology Training Program

Corporation for Science and Technology

Mr. Robert Cummins
Acting Director
Indiana Department of Commerce
440 N. Meridian St.
Indianapolis, IN 46204
(317) 232-8810

Date of establishment: 1982
Annual State funding (millions): -O-

Program type:

High-technology development.

Program services:

Task force.
State resource promotion.
Information dissemination.

Description:

This Corporation is designed to stimulate the development of science and technology in Indiana, and is set up as a not-for-profit corporation. The Board of Directors consists of representatives from the private sector, from education and from the State and local governments. One of the primary missions of the corporation will be to encourage public-private cooperatives programs in research and development.

Laser and Electro-Optics Technology Training Program

Mr. Don Gentry
Executive Director
State Board of Vocational and Technical Education
401 Illinois Bldg.
Indianapolis, IN 46204
(317) 232-1814

Date of establishment: 1975
Annual State funding (millions): N/A

Program type:

High-technology education.
Labor/technical assistance,

Program services:

Technical training provided by State.
Links industry with university resources.

Description:

This training program has been set up within the Department of Vocational Education to address the needs of industry with advancin$_{g}$technologies. The program qualifies graduates as skilled technicians in design support, developmental assistance, sales, field service, and maintenance.

Iowa

The former Governor's High-Technology Task Force was appointed in 1982 to examine the status of high-technology industry in the State. The Task Force report, after taking into account existing State resources, identified biotechnology, micrcelectronics, and energy technologies as important to the overall economic development of Iowa. It also cited the need for a better technology-transfer mechanism, and recommended the creation of a permanent Commission to establish long-range goals and oversee State high-technology issues.

The new Governor has introduced a legislative package that echoes many of these recommendations, including: the continuation of a permanent high-technology commission; a technology-transfer mechanism; challenge grants for basic and applied research in agriculture and industrial; a high-technology research tax credit; expansion of the State industrial development bond law to include high-technology research and development bonds; and revisions in Iowa securities laws to encourage the availability of venture capital.

The Iowa Development Commission has also worked with local communities that are experiencing labor problems, trying to encourage local solutions to local problems and to improve labor relations throughout the State by forming labor/industry councils. In addition, the State will be looking at policy alternatives in the longer term development issues of education and training.

Programs

High-technology development

Iowa High-Technology Task Force

Iowa High-Technology Task Force

Mr. David Swanson
Director
Iowa Development Commission
250 Jewett Bldg.
Des Moines, IA 50309
(515) 281-3251

Date of establishment: 1982
Annual State funding (millions): -O-

Program type:

High-technology development.

Program services:

Task force.
State resources promotion (infrastructure).
Information dissemination.

Description:

The high-technology Task Force reported on November 1, 1982 on its original mission to examine the status of high-technology in Iowa. It recommended:

1. targeting research and development efforts at biotechnology, microelectronics, productivity enhancement/process controls, and energy alternatives;
2. expanding technology transfer opportunities;
3. looking towards long-term development;
4. forming a commission to oversee efforts (a bill is before the 1983 legislature to form this commission);
5. considering legislative changes;
6. developing human resources;
7. encouraging venture capital; and
8. expanding in tax and regulations State promotion around the country.

Kansas

"Strategy for the Eighties," a staff study commissioned by the Governor, concluded that Kansas has, in its technically skilled work force, the basic ingredients needed to compete in the arena of high-technology development. The Governor has appointed a task force to follow up on this study and develop specific policy recommendations based on its findings.

The Governor has also called for a program under which the education system's Board of Regents would invest State money, with matching funds from the private sector, to provide more support for high-technology research conducted at State schools. This includes a proposal to tax oil and gas revenues in order to avoid cutting other educational programs. Wichita State University, in cooperation with the local chamber of commerce, has taken the lead in this area by establishing an innovation and entrepreneurship center to encourage new business development. The University of Kansas is also investigating the feasibility of a science and research park in Lawrence. The State has also developed an aggressive enterprise zone program to be developed and run by individual cities.

Programs

High-technology Development

Governor's Task Force on High-Technology Development

General industrial development

Kansas Department of Economic Development

Governor's Task Force on High-Technology Development

Mr. Charles Schwartz
Secretary
Department of Economic Development
503 Kansas Ave., 6th Floor
Topeka, KS 66601
(913) 296-3481

Date of establishment: 1982
Annual State funding (millions): N/A

Program type:

High-technology development.

Program services.

Task force

Description:

In October 1982, Governor John Carlin established by Executive Order, the Governor's Task Force on High Technology Development, The Task Force is charged with analyzing the conclusions and recommendations of the study on *Strategy for the Eighties: High Technology Industrial* Development, as well as exploring high-tech nology development potential in Kansas. The Task Force will make its report to the Governor in July 1983.

Kansas Department of Economic Development

Mr. Charles Schwartz:
Secretary
Department of Economic Development
503 Kansas Ave., 6th Floor
Topeka, KS 66603
(913) 296-3480

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

General industrial development.

Program services:

Trains technical staff for business,
Enterprise zones.
Reduction in State corporate business tax.
Training vouchers for new jobs.
Task force.

Description:

This Department recently completed a study entitled *Strategy for the Eighties: High Technology Industrial De* velopment, in which State officials concluded that Kansas has the basic ingredients needed to compete in the arena of high-technology development, hut must now create State level programs that show high-technology industries a concern or commitment on the part of Kansas. Recommendations for this action include: convening a committee of business, education, and State leaders; considering legislative changes such as tax and R&D incen tives; coordinating training with educational instructions; and promoting the State resources to out-of-State business. At present, the State has an Industrial Training Program, tax incentives for business and enterprise zone legislation allowing cities to develop the zones in specially designated areas.

Kentucky

The economic development strategy laid out by the Governor includes the formation of a High-Technology Committee to review all sectors of the State economy ior possible high-technolog, industrial **development.** The **State** already provides overall development assistance to business, including a strong financing program and a re cent emphasis on the importance of education for eco nomic growth. Kentucky also has good vocational training programs, including a program designed for displaced older workers, and has an aggressive State- local cooper - ative enterprise nine program.

Development efforts by the education sector include the Northern Kentucky University Foundation, established to develop a research / technology park adajacent to Northern Kentucky University. In addition, the University of Kentucky Office of Continuing Education acts as information broker on Federal funds for small business.\ development.

Programs

Capital provision assistancc

Kentucky Development Finance Authority

Labor, / technical assistance

Industry Training Program

General industrial development

Kentucky Development Finance Authority
Kentucky Enterprise Zones

Kentucky Development Finance Authority

Mr. Roger Peterman
Executive Director, Industrial Development Division
Kentucky Commerce Cabinet
Capital Plaza Tower
Frankfort, KY 40601
(502) 564-4554

Date of establishment: 1%2
Annual State funding (millions): N/A

Program type:

Capital provision assistance.
General industrial development.

Program services:

Long-term, low-interest loans.
Bond issue to raise capital
Assists in finding venture capital.

Description:

The Kentucky Development Finance Authority, which was created to invest in manufacturing, agribusiness, and tourism projects, offers two programs.

The Industrial Revenue Bond Program allows companies that have sufficient financial strength to obtain conventional financing to take advantage of tax-exempt rates of interest. This program is geared to traditional industry rather than startups and relatively new high-technology companies.

The Direct Loan Program is designed to allow growth-oriented businesses to obtain the long-term financing needed to encourage growth. The direct loans are made in participation with private lenders and/or Federal lending agencies. Technical assistance is provided for financial packaging, and training programs and business management assistance is provided.

The Authority issues bonds for providing capital to industry. It emphasizes traditional industries and requires a strong credit base of its business applicants, so small, new, high-technology firms are generally closed out of this market. Once a business is accepted, however, it can receive long-term, low-interest loans; training programs; and business management assistance.

Industry Training Program

Mr. John Lovd
Department of Education
Bureau of Vocational Education
Capital Plaza Tower
Frankfort, KY 40601
(502) 564-2326

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

Labor/technical assistance.

Program services:

Technical training provided by State.

Description:

This program provides training in computer skills and is conducting workshops throughout the State in conjunction with the Business and Office Education Unit. In addition, this department has instituted a Business-Industry-Education Committee to specifically address computer training in manufacturing industries. This committee will identify the skills needed in high-technology industries, and then develop a training program around these needs.

The Upgrade Training Program, another project in this department, is a program designed to retrain older workers who do not have the skills to use new manufacturing equipment.

Kentucky Enterprise Zones

Mr. John Nichols
Director
Office of Community Development
Capital Plaza Tower
Frankfort, KY 40601
(502) 564-2230

Date of establishment: 1981
Annual State funding (millions): N/A

Program type:

General industrial development.

Program services:

Abatement of local property tax.
Freeze tax on improved property.
Reduction in business tax
Physical plant provision.

Description:

The Kentucky enterprise zone legislation, currently being implemented, allows numerous tax incentives and it provides for no use taxes on vehicles; no property taxes; no income taxes on loan interest; a 20-year business loss carryover; a capital gains exemption from State income tax; and a 5-year tax exemption for historical building improvements.

Louisiana

The Governor's Task Force on High-Technology, appointed to look at possible economic diversification in a State that is dependent on the petrochemical industry, includes representatives from business, education, government, and finance. Goals developed by the Task Force include better capital markets, enhanced technology transfer between university and business, and changes in the tax structure to encourage the development of technology-based industries. Other State development goals include strengthening the State's research and development base, both public and private. The State development strategy includes all forms of innovation and manufacturing.

Louisiana is looking forward to hosting the New Orleans World Fair, which will emphasize high-technol-

ogy industrial development. The city of New Orleans, too, is aggressively pursuing the development of high-technology industries. This includes plans for a research park, changes in city ordinances, and location assistance for new and expanding industry.

Programs

High-technology development

Louisiana Task Force on High-Technology

Capital provision assistance

National Business Division

Labor/technical assistance

National Business Division

***General** industrial development*

National Business Division

Louisiana Task Force on High-Technology

Mr. Kevin Couhig
Project Coordinator-Task Force on High-Technology
Office of Commerce and Industry
P.O. BOX 44185
Baton Rouge, LA 70704
(504) 342-5372

Date of establishment: 1982
Annual State funding (millions): N/A

Program type:

High-technology development.

Program services:

Task force.

Ascription:

This Task Force is considering the future of Louisiana's economy, emphasizing the potential instability in continued State income reliance on the petrochemical industry. The concerns of the Task Force include **access** to risk capital, and the role educational resources play in the development of high growth industry. It consists of university presidents and chancellors, the Commissioner of Higher Education, State Legislators, and members of the business community. The Task Force will make recommendations to the Governor and the legislature in April 1983.

National Business Division

Mr. John Foltz
Director
National Business Division of the Department of Commerce
P.O. BOX 44185
Baton Rouge, LA 70804
(504) 342-5370

Date of establishment: 1972
Annual State finding (millions): N/A

Program type:

Capital provision assistance.
General industrial development.
Labor/technical assistance.

Program services:

Enterprise zones.
Industrial revenue bonds.
Technical training provided by State.
Subordinated loans.
Links industry with university resources.
Abatement of local property tax.
Assists in finding venture capital.
Task force.
State resources promotion.
Information dissemination

Description:

Louisiana has developed incentives for business development including property and building tax exemptions for up to 10 years; an Industrial Revenue Bond (IRB) financing program; and a training program which customizes a program on a firm-by-firm basis. The State recently began a new effort coordinating the efforts of the vocational-technical schools with the skill requirements of industry. In addition, the State is looking for ways to promote engineering and science skills.

A small business division of this department provides loans and guaranteed loans; and some venture capital is available through this office. This office also administers the State enterprise zones-two of the first four firms in these zones were high-technology manufacturers.

Maine

Maine, whose economy is made up almost entirely of small businesses, has recently struggled with a declining demand for its major product: shoes and leather goods. Its strategy for overall economic development includes the creation of a loan guarantee program and a State-chartered corporation to provide capital for new or expanding industry. There has been limited support for the technical education that may be needed to attract high-technology industries, but the State enjoys the cooperation of the university and private sectors in automating the shoe industry and other traditional industries to make production more efficient.

The New Enterprise Institute, a private nonprofit group associated with the University of Maine, has been instrumental in developing computer--assisted design and manufacturing in the shoe industry, working on a firm-by-firm basis to implement innovative production processes. In addition, this group helps find research and development funds for further high-technology development.

Programs

Capital provision assistance

Maine Capital Corp.

General industrial development

Business Assistance Division
Maine Guarantee Authority

Business Assistance Division

Mr. Robert Hird
Director, Business Assistance Division
State Development Office
State House
Augusta, ME 04333
(207) 289-2656

Date of establishment: 1981
Annual State funding (millions): N/A

Program type:

General industrial development

Program services:

Training vouchers for new jobs.
Tax–favorable business climate.
Industrial revenue bonds.

Description:

The Business Assistance Division of the State of Maine works closely with industry in the State to encourage economic development. The office caters to the needs of small business which comprises a large proportion of Maine industry. The State provides Industrial Revenue Bonds and jobs tax credits, and it works with several Federal programs such as SBA 503 to promote growth. This office is analyzing ways to help existing business to adapt new technologies to increase efficiency.

Maine Capital Corp.

Mr. David M. Coit
Executive Vice President
Maine Capital Corp.
One Monument Sq.
Portland, ME 04101
(207) 772-1001

Date of establishment: 1980
Annual State funding (millions): N/A

Program type:

Capital provision assistance.

Program services:

Venture capital provision assistance.

Description:

This program is committed to developing successful businesses within the State of Maine by providing equity capital for new ventures, expansion of existing business, and for leveraged "buy-outs." The State legislature authorized tax credits to initial investors, who provided $1 million in capital funding. Maine Capital Corp. (MCC) prefers projects with total investment size exceeding $500,000, with MCC's share approximately $150,000.

Maine Guarantee Authority

Mr. Philip Clifford II
Manager
Maine Guarantee Authority
Station 94 State House
Augusta, ME 04333
(207) 289-3095

Date of establishment: 1973
Annual State funding (millions): $Bond

Program type:

General industrial development.

Program services:

Loan guarantees.
Industrial revenue bonds.

Description:

This State agency provides financial assistance to attract and expand industry within the State. This is done through three channels: 1) a Mortgage Guarantee Program; 2) Industrial Revenue bonds—Small Business Um-

brella Program which issues bonds to provide loans and insurance, and 3) loans for building "shell" industrial buildings. The program makes it possible for businesses to acquire loans that would otherwise be beyond their reach.

Maryland

The Maryland High-Technology Roundtable, created in 1982, advises the Governor and legislature on issues such as financial support, technical education, industrial retraining, and engineering programs at Maryland's universities. Maryland already has eight State financing programs for different types of businesses, including a venture capital program for new companies, and it aggressively promotes the resources available to expanding industry. There are plans to expand the existing Technology Extension Service throughout the State to encourage product development and manufacturing innovation. In addition, several Maryland counties have launched successful high-technology programs of their own.

The University of Maryland plays a leading role in the State's efforts to promote advanced research and high-technology development. Its University Research Foundation conducts technical research and assists businesses in product and market development; the Center for Productivity and Quality of Workin, Life provides training, technical assistance, and information to the public and private sector; and the Engineering Research Center assists small business with technology-related product development. In addition, the University has recently announced plans to establish a research park, the Maryland Science and Technology Center, to exploit its strengths in computer science, engineering, and biomedical research.

Programs

High-technology development

Maryland High-Technology Roundtable

Capital provision assistance

Maryland Industrial Development Financing Authority
Maryland Small Business Development Financing Authority

Labor/technical assistance

Maryland Industrial Training Program
Technolog, Extension Service

General industrial development

Technology Extension Service

Maryland High-Technology Roundtable

Mr. James Roberson
Secretary
Department of Economic and Community Development
2525 Riva Rd.
Annapolis, MD 21401
(301) 269-3176

Date of establishment: 1982
Annual State funding (millions): N/A

Program type:

High-technology development.

Program services:

Task force.

Description:

The Maryland High-Technology Roundtable acts as an advisor and consultant to the Governor and State legislature on significant issues in Maryland's high-technology environment. The Roundtable is comprised of decisionmakers from high-technology businesses, financial institutions, professional organizations, public and private universities, and State and local government. Issues on the Roundtable's agenda include: the development of excellence in State university engineering programs; the development of realistic industrial retraining programs; the enhancement of technical education in primary and secondary schools; promote capital formation; set up committees on specific issues.

Maryland Industrial Development Financing Authority

Mr. Oliver H. Fulton
Executive Director
MIDFA
The World Trade Center, Suite 2244
Baltimore, MD 21202
(301) 659-4262

Date of establishment: 1%5
Annual State funding (millions): N/A

Program type:

Capital provision assistance.

Program services:

Industrial revenue bonds.
Long-term, low-interest loans,
State resource promotion.
Loan guarantees.

Description:

The Maryland Industrial Development Financing Authority (MIDFA) approves issues, sells, and insures tax-exempt industrial revenue bonds through two major programs. Both programs assure low-interest, tax-exempt financing for loan recipients to finance land, buildings, and equipment. Because of the tax-exempt status, interest rates are lower than those available through conventional lending markets. The two programs are the MIDFA Umbrella Program for capital provision to small businesses, and the MIDFA Insurance Progam guaranteeing loans made to business.

Maryland Industrial Training Program

Mr. Ray Adcock
Director
Department of Economic and Community Development
1748 Forest Dr.
Annapolis, MD 21401
(301) 269-2631

Date of establishment: N/A
Annual State funding (millions): N/A

Program type

Labor/technical assistance.

Program services:

Technical training provided by State.

Description:

The Maryland Industrial Training Program offers customized training on a firm-by-firm basis with special emphasis on new and expanding industries. The Program offers skills training in high-technology areas such as computers, electro-optics, and robotics.

Maryland Small Business Development Financing Authority

Mr. Stanley Tucker
Executive Director
MSBDFA
The World Trade Center-401 E. Pratt St.
Baltimore, MD 21202
(301) 659-4270

Date of establishment: 1980
Annual State funding (millions): N/A

Program type:

Capital provision assistance.

Program services:

Assists in finding venture capital.

Description:

This program assists socially or economically disadvantaged businesspersons to obtain working capital needed to continue and complete a project under a Federal, State, or local government contract. Eligibility for loans up to $150,000 per project requires that the applicant be unable to obtain adequate business financing through normal lending channels. A second program administered by this office can guarantee up to 80 percent of a loan, up to $500,000 made by a lender to a qualified applicant.

Technology Extension Service

Mr. Frank Moderachi
Director, Technology Extension Service
University of Maryland College of Engineering
Frostburg State College
Frostburg, MD 21532
(301) 689-2570

Date of establishment: 1978
Annual State funding (millions): $0.05

Program type:

Labor/technical assistance.
General industrial development.

Program services:

Product development assistance.
Patent searches.
Links industry with university resources.
Information dissemination.

Description:

This program was funded as a pilot program by the Appalachian Regional Commission in 1978, to help businesses with product development and innovation. The Director reports the program has been quite successful in helping firms to adopt new technologies, and in linking firms with university technical assistance. This pilot program, which was considered a success, has been extended statewide and will be funded by the State of Maryland.

Massachusetts

Massachusetts is often cited as an example of the benefits of high-technology development. It has been described as having no outstanding natural resources, but it does have a well-trained technical labor force, excellent educational institutions, and a business community that has consistently fostered investment in technological in-

novation. Massachusetts boasts more venture capital companies than any other State except California.

State government initiatives include an aggressive training program for high-technology workers, tax incentives for investments by insurance companies, and a technology park that is currently in the planning stage. Another initiative, the Massachusetts Technology Development Corp. (MTDC), was set up by the State to provide venture capital to otherwise overlooked ventures. MTDC has been highly successful in this role, and has come to be a model for similar initiatives in many other States.

Programs

High-technology development

Massachusetts Technology Development Corp.

High-technology education

Bay State Skills Corp.

Capital provision assistance

Massachusetts Industrial Finance Agency
Massachusetts Technology Development Corp.

Labor/technical assistance

Bay State Skills Corp.
Massachusetts Technology Park Corp.

Bay State Skills Corp. (BSSC)

Ms. Susan K. Moulton
Executive Director, Bay State Skills Corp.
McCormack Office Bldg.
One Ashburton Place, Rm. 2110
Boston, MA 02108
(617) 727-5431

Date of establishment: 1981
Annual State finding (millions): $5.0

Program type:

High-technology education.
Labor/technical assistance.

Program services:

Information dissemination.
Links industry with university resources.
Grants for training.

Description:

BSSC encourages and facilitates cooperative relationships between business, labor, government, and education aiming to develop and expand programs of skills training consistent with employment needs. It also provides grants-in-aid to educational and training institutions making awards of over $5 million for conducting skills training programs and education in a variety of growth occupations. In addition, the corporation plans to collect and disseminate information on employment needs, and to conduct conferences and seminars. BSSC will identify occupations that are in high demand, seek out strong education and training organizations, and fund creative skill training programs by using State dollars to leverage financial assistance from the private sector. All of BSSC programs require active involvement of the private sector.

Massachusetts Industrial Finance Agency (MIFA)

Mr. Robert E. Patterson
Executive Director
Massachusetts Industrial Finance Agency
125 Pearl St.
Boston, MA 02110
(617) 451-2477

Date of establishment: 1979
Annual State funding (millions): $100

Program type:

Capital provision assistance.

Program services:

Industrial revenue bonds.
Physical plant provision.

Description:

This agency was established to create jobs by stimulating private investment. Since its inception, the agency has helped 769 industrial and urban revitalization projects to go forward, creating an estimated 40,000 new jobs. The program provides low-cost capital for expansion through the Industrial Review Bond (IRB) program. MIFA uses the IRBs for three types of development projects—industrial companies, commercial projects, and pollution control facilities.

Massachusetts Technology Development Corp. (MTDC)

Mr. William F. Aikman
President .
Massachusetts Technology Development Corp.
84 State St., Suite 500
Boston, MA 02109
(617) 723-4920

Date of establishment: 1978
Annual State funding (millions): $1.6

Program type:

Capital provision assistance.
High-technology development.

Program services:

Assists in finding venture capital.
Direct investment in startup.
Investment in product development.
Venture capital–royalty or stock rights.
Loan–debt.
Equity loans.
Market development assistance.

Description:

This Corporation—often the model for programs in other States—provides venture capital to new or small high-technology-based companies. MTDC also provides information on labor and market development, product development assistance, and export promotion information. It will coinvest with private funds. MTDC helps new businesses or inventors achieve commercial success by providing debt, equity or royalty agreement capital, and assistance in finding venture capital from other sources.

Massachusetts Technology Park Corp.

Mr. Philip F. Holahan
Assistant Secretary and General Counsel
Executive Office of Economic Affairs
One Ashburton Place, Rm. 2101
Boston, MA 02108
(617) 727-8380

Date of establishment: 1982
Annual State finding (millions): $20

Program type:

Labor/technical assistance.

Program services:

Links industry with university resources.
Trains technical staff for business.
Technical training provided by State.
Physical plant provision.

Description:

This public corporation *encourages* industry to locate, develop, and expand within the Commonwealth by increasing the capacity of postsecondary institutions to provide state-of-the-art training in certain emerging areas of science and technology. At present, the Corporation is designing a microelectronics center.

Michigan

Michigan is undertaking a comprehensive program to stimulate the growth of new industries and bolster its traditional industries. This strategy includes loan and capital programs, training programs, a research and development (R&D) fund, university-industry cooperative programs, university research centers, and changes in R&D tax laws. Legislation passed in 1982 made the State's public pension funds eligible for equity investments in Michigan businesses. The focus is on technology-based, growth-oriented industries, with investments generally taking the form of stock or convertible debentures. Michigan banks have also set up Small Business Innovation Centers in several cities, and a State agency has a program to help with small business development.

The new Governor has called for a study of how the State's education system is tied to overall economic development, and how improvements can be made to enhance overall economic development in the State. This comes in part from the recognition that Michigan's unemployment problems, caused by permanent structural changes in automotive and related industries, can be eased only by developing new industries like robotics.

Government leaders also recognize that, if the State is planning to compete effectively for new jobs and economic growth, there must be more cooperation between the private, public, and academic sectors. A new private sector initiative in this area is the Economic Alliance for Michigan, a group of business and labor leaders that is investigating high-technology industry as a means of bringing new jobs to the State and expanding employment in existing industries.

Programs

High-technology development

High-Technology Equity Loans
High-Technology Resource Center
Industrial Technology Institute
Innovation Center
Metropolitan Center for High-Technology
Michigan High-Technology Development Corp.
Molecular Biology Institute

Capital provision assistance

High-Technology Equity Loans
Michigan Economic Development Authority
Michigan Job Development Authority

Labor/technical assistance

Comprehensive Employment Program
High-Technology Resource Center

General industrial development

Michigan Economic Development Authority

Comprehensive Employment Program

Mr. Rob Fraser
Office of Industrial Training
Michigan Department of Labor
309 N. Washington St.
Lansing, MI 48909
(517) 373-9180

Date of establishment: 1978
Annual State funding (millions): $0.99

Program type:

Labor/technical assistance.

Program services:

Technical training provided by State.
Links industry with university resources.
Technical support provided by State.
Loans.

Description:

This program designs and administers training programs to meet the expressed labor needs of new and/or expanding businesses.

High-Technology Equity Loans

Mr. Bill Amerman
Director of Investments
Michigan Department of Treasury
P.O. Box 15128
Lansing, Ml 48901
(517) 373-3140

Date of establishment: 1983
Annual State funding (millions): $375 bond

Program type:

Capital provision assistance,
High-technology development.

Program services:

Equity loans.

Description:

This program is not yet implemented, but will be a "set-aside" for high-technology business provided in conjunction with the State Pension Fund. It is likely that the initial investments for the pension fund as a venture capital source will likely take place with other nongovernment institutional venture capitalists into a company that would in turn make the direct equity purchases.

High-Technology Resource Center

Mr. Albert A. Bogdan
Director
Office of Economic Development, Michigan Department of Commerce
P.O. BOX 30225
Lansing, MI 48909
(517) 373-35.30

Date of establishment: 1982
Annual State finding (millions): $0.15

Program type:

High-technology development.
Labor/technical assistance.

Program services:

Grants for research.
Grants for development.
Assists in finding venture capital.
Links industry with university resources.

Description:

This Center administers the State Research Fund and provides assistance to entrepreneurs in obtaining Federal research and development grants. Also assists technology-based firms obtain venture capital, prepare business plans, and access technical assistance from Michigan universities.

Industrial Technology Institute (ITI)

Dr. Arch Naylor
Director
Industrial Technology Institute
2901 Baxter Rd.
Ann Arbor, MI 48109
(313) 763-9273

Date of establishment: 1981
Annual State funding (millions): $2.75

Program type:

High-technology development.

Program services:

Market development assistance.
Links industry with university resources.
Technical training provided by State.

Description:

ITI has been established to help the State capture an increasing share of the growing computer-based automation and flexible automated manufacturing industries. ITI will use Michigan's higher education system, includ-

ing community colleges, and work with the private sector to develop capabilities in advanced robotics research, applied research, and retraining programs necessary to integrate robotics into the workplace. Funding is expected to come from private foundations, private sector individuals, and the State government.

Innovation Center

Mr. Don Smith
Institute of Science and Technology
University of Michigan
2200 Bonisteel Blvd.
Ann Arbor, MI
(313) 764-5260

Date of establishment: 1982
Annual State finding (millions): $0.15

Program type:

High-technology development.

Program services:

Technical assistance.

Description:

The main emphasis of this program is to help existing Michigan firms expand their manufacturing capacity into new products and markets, utilizing emerging technologies. This demonstration project brings university resources to the private sector.

Metropolitan Center for High-Technology

Dr. M. A. Rahimi
Metropolitan Center for High-Technology
Wayne State University
2727 Second St.
Detroit, MI 48201
(313) 577-4722

Date of establishment: 1982
Annual State funding (millions): $0.50

Program type:

High-technology development.

Program services:

Product development assistance.
Technical training provided by State.

Description:

Wayne State University, with over $20 million of contract research a year, will play a pivotal role in Michigan's and particularly southeast Michigan's plans to encourage development of technology-based industries. The Metropolitan Center for High Technology will provide research and development capabilities, special incubator environments, teaching and service capabilities, industrial training, and retraining. Key program components include an Innovation Center, Incubation Center, and High-Technology Outreach Services.

Michigan Economic Development Authority (MEDA)

Mr. William A. Schwartz
Executive Director
Michigan Economic Development Authority
BOX 30234
Lansing, MI 48909
(517) 373-6378

Date of establishment: 1982
Annual State funding (millions): $10.0

Program type:

Capital provision assistance.
General industrial development.

Program services:

Loan-debt.
Bond issue to raise capital.
Long term, low-interest loans.
Grants for research.
Grants for development.

Description:

The Authority's primary responsibility is to retain and create jobs in Michigan. In addition it is to develop self-sustaining enterprises and to promote diversification of the economy of the State.

MEDA provides necessary financial assistance to job creating or job retaining projects capable of becoming self-sustaining enterprises. It provides direct loans and loan insurance enabling projects to obtain funds on terms not otherwise available.

A separate responsibility of MEDA is to administer grants to nonprofit research and development enterprises that perform research and development in present and emerging technologies and the application of such technologies to business and industry.

Michigan High-Technology Development Corp.

Mr. Robert C. Law
Director
8623 N. Wayne Rd., Suite 200
Westland, MI 48185
(517) 373-3530

Date of establishment: 1982
Annual State funding (millions): $0.150

Program type:

High-technology development.

Program services:

Task force.
State resources promotion (infrastructure).

Description:

This Corporation has the job of implementing the Michigan High-Technology Task Force recommendations. The Corporation is designed to devise, promote, and implement plans to increase development and growth of technology-based businesses in Michigan. The Corporation will coordinate all State, local, and regional high-technology efforts.

Michigan Job Development Authority

Mr. William I. Cochran
Director
Michigan Department of Commerce
P.O. Box 30227
Lansing, MI 48909
(517) 373-0349

Date of establishment: 1978
Annual State funding (millions): N/A

Program type:

Capital provision assistance.

Program services:

Investment capital.

Description:

The Michigan Job Development Authority (JDA) offers direct loans and loan participation for financing industrial construction, but cannot finance startup businesses or rescue failing businesses. Financing is available for construction, acquisition, expansion, or rehabilitation of industrial buildings, machinery, and equipment. The Authority requires, however, that successful applicant credit must be sufficient to attract revenue bond buyers. In 1983, JDA will expand its services to commercial, agricultural, solid waste disposal, and forestry facilities.

Molecular Biology Institute

Dr. Patrick Oriel
Molecular Biology Institute
276 Bessey Hall
Michigan State University
East Lansing, MI 48824
(517) 355-2277

Date of establishment: 1982
Annual State funding (millions): $1.0

Program type:

High-technology development.

Program services:

Links industry with university resources,
Grants for research.

Description:

Originally formed by Governor Mil!iken's Task Force for High Technology Industry and located close to Michigan State University, the Molecular Biology Institute will be a biotechnology coordinating development center spanning the entire State. Interuniversity projects and university-industry collaboration will be emphasized with a strong orientation toward projects with potential for early commercialization. Building on Michigan's strong forest and agricultural resources, Biology Institute scientists are dedicated to the development of new bioproducts and processes from renewable resources. Advanced biotechnology techniques including recombinant DNA, plant tissue culture, and immobilized enzymes are integral parts of the research and development program. In addition, a project in protein design and function is under development.

A scientific advisory board is being assembled consisting of nationally recognized scientists in the field of biotechnology. This group will help in the identification of new research opportunities and guide progress of industry projects.

Institute startup funds were provided by the Kellogg and Dow Foundations and a major grant has been provided by the Michigan Economic Development Authority. The Molecular Biology Institute will favor Michigan-based commercialization of its research and expects to be self-supporting from industrial royalties and contracts after 8 years.

Minnesota

Minnesota is distinguished by the aggressive economic development efforts of its private sector and educational groups. Several firms and industry-labor-education coalitions have set up programs to provide incentives for high-technology industrial development. Minnesota Wellspring, chaired by the Governor, includes 28 representatives from labor, business, agriculture, education, and government. Its goal is to mobilize statewide support for new and better jobs, technological innovation, business growth, and changes in public policy. The University of Minnesota has created an agency for computer literacy through local schools and community colleges. In 1983, the State Legislature is considering a Minnesota Challenge Grant Program to provide high-technology skills training.

In addition, several private sector groups in Minnesota are working to promote high-technology development.

One of these is the Minnesota Information and Science Center (MISC), which is largely funded by four major corporations but has a board of representatives from government, education, and industry. MISC formulates broad policy recommendations, proposes strategies for economic development, and designs training courses for high-technology skills. This group plans to work closely with other private sector groups such as the Minnesota High-Technology Advisory Council, which is assessing the technological needs and resources of the State, and the Minnesota Seed Capital Corp., which will provide startup financing for new firms. Another large private sector initiative is the Business and Technology Center in Minneapolis, sponsored by Control Data Corp., which provides incubator space and technical and management assistance to help entrepreneurs develop new high-technology products and processes.

Programs

High-technology education

Microelectronics Information and Science Center

Labor/technical assistance

Microelectronics Information and Science Center

General industrial development

Minnesota Wellspring

Microelectronics Information and Science Center

Dr. Ted Davis
Chairman, Department of Chemical Engineering
University of Minnesota
421 Wash Ave., S.E.
Minneapolis, MN 55455
(612) 373-2299

Date of establishment: 1982
Annual State funding (millions): $1.5

Program type:

High-technology education.
Labor/technical assistance.

Program services:

Grants available.
Grants for research.
Grants for startup.
Grants for development.
Links industry with university resources.
Trains technicians for business.

Description:

This private sector effort has a small amount of State money through university funding. It has requested $1.5 million for 1983. Major private contributors are Sperry Corp., Control Data Corp., and 3M. This project provides advice and technical assistance to high-technology projects on a contract basis, and uses technical staff from the universities in the State. In addition, money is available as seed for matching grants in new research ideas initiated by the university which will be joint projects with industry. The assistance is generally not product oriented, and the Center does not help new firms get started. The Center will offer courses to help keep technical people current in their field.

Minnesota Wellspring

Ms. Donna Knight
Executive Director
Minnesota Wellspring
101 Capital Sq.
St. Paul, MN 55101
(612) 296-4858

Date of establishment: 1981
Annual State funding (millions): $0.35

Program type:

General industrial development.

Program services:

Information dissemination.

Description:

This nonprofit corporation represents a collaborative effort among Minnesota business, labor, education, and government. The State provides one-third of the program budget, with private sources supplying the rest. The mission of the corporation is to increase the number of new jobs in the State, and to expand the State's technology-based industry.

Mississippi

Mississippi has taken stock of its needs and made a major investment in education to enhance its future economic growth. This includes a financial investment in primary and secondary schools funded by a tax increase, as well as reform of curriculum to reflect the increasing emphasis *on* science and mathematics in the Nation's industrial sector. In addition, the State already has an aggressive high-technology training program customized to the needs of a particular firm.

Another State program is the Mississippi Research and Development Center (MRDC) which coordinates public and private resources to promote technology transfer. MRDC's Business Services Bureau and New Ventures Branch provide complete analyses of the commercial potential of research projects, and they work closely with

industry to help with new product and process development. Both groups assist in preparing financial projections, finding sources of financing, locating sources of raw materials, determining manpower needs, and obtaining or licensing patents. The Mississippi Legislature recently passed a bill establishing enterprise zones and high-technology zones for establishment of high-technology business and industry.

Programs

High-technology development

Mississippi Research and Development Center

High-technology education

Vocational Education Program

Capital provision assistance

Small Business Loan Guarantee Program

Labor/technical assistance

Industrial Development Division
Mississippi Research and Development Center
Vocational Education Program

General industrial development

Industrial Development Division
Small Business Loan Guarantee Program

Industrial Development Division

Mr. James Miller
Director
Industrial Development Division
P.O. Box 849
Jackson, MS 39205
(601) 359-3439

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

Labor/technical assistance.
General industrial development.

Program services:

Industrial revenue bonds.
Tax–favorable business climate.
State resources promotion (infrastructure).
Information dissemination.

Description:

This office, with five individuals who travel throughout the United States and two who travel internationally, contacts industries that might be interested in relocating in Mississippi. The State offers financing under the Industrial Revenue Bond program, and provides business tax incentives such as exemptions from property taxes. This office surveying of high-technology firms to determine what the State can develop to attract these industries. In addition, with a view towards overall economic development, the Mississippi Legislature recently passed a $106 million initiative to improve public education.

Mississippi Research and Development Center

Dr. Jim Meredith
Director
Mississippi R&D Center
3825 Ridgewood Rd.
Jackson, MS 39211
(601) 982-6606

Date of establishment: 1964
Annual State funding (millions): $4.2

Program type:

High-technology development.
Labor/technical assistance.

Program services:

State resources promotion.
Market development assistance.
Information dissemination.
Product development assistance.

Description:

This Center coordinates industry and university resources, to help with product and process development, and to transfer technologies from R&Q centers to industry. The Center also provides organizational and operational services to small business, manufacturing operations, and new ventures.

Small Business Loan Guarantee Program

Mr. James Miller
Director
Industrial Division
P.O. Box 849
Jackson, MS 39205
(601) 354-6700

Date of establishment: 1977
Annual State funding (millions): $1.0

Program type:

Capital provision assistance.
General industrial development.

Program services:

Loan guarantees.

Description:

The State modeled this program on a Federal Small Business Administration program that guarantees loans

for businesses creating new jobs. While not focused exclusively on high-tech firms, the program looks for companies that can expand and survive.

Vocational Education Program

Mr. Elwin Wheat
Vocational-Tech Division
State Department of Education
P.O. Box 771
Jackson, MS 39205
(601) 359-3088

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

High-technology education.
Labor/technical assistance.

Program services:

Trains technical staff for business.
Technical support provided by State.
Links industry with university resources.

Description:

This program provides labor for new and expanding industry and provides training for displaced workers by funding up to 100 percent of new and upgrade training programs. The program accepts anyone who applies for a job, and trains them to the level needed by industry. It also helps workers who are not trained for a specific position to find jobs. This program recently started a series of three workshops in advanced technology skills. The State maintains eight mobile industrial training units that provide courses in computer-aided design, metalworking, and robotics.

Missouri

Missouri has developed an aggressive program to attract, develop, and retain high-technology industry. This program is largely dependent on the interaction, through research funding, of university and industry in the State. Much of the initiative for this program came from industry, which saw the potential for high-technology product development in the basic research conducted at Missouri universities.

In 1982, the University of Missouri at Rolla began a computer-aided design and manufacturing (CAD/CAM) and robotics center to train engineering students in state-of-the-art manufacturing technologies. Seven Missouri and national firms have contributed funds and equipment to the center, which also receives National Science Foundation (NSF) funds through Computer Assistance for Undergraduate Science Education grants. Another university program is the Office of Science and Technology, which has negotiated contracts for research with local industry.

In addition, the State has taken stock of the training needs of workers displaced from traditional industry and developed a retraining program to teach new high-technology skills. The State also provides funding for business development, tax incentives for new and expanding industries, and active local groups working on economic development.

Programs

High-technology development

University of Missouri-Office of Science and Technology

High--technology education

Higher Education Research and Applied Projects Funds
University of Missouri-Office of Science and Technology

Capital provision assistance

Higher Education Research and Applied Projects Funds
Industrial Development Funding Act
Missouri Economic Development Commission

Labor/technical assistance

High-Technology Skills for Auto Workers
University of Missouri-Office of Science and Technology
Higher Education Research and Applied Projects Funds
Missouri Enterprise Zones

General industrial development

Industrial Development Funding Act
Missouri Economic Development Commission
Missouri Tax Program for Business

High-Technology Skills for Auto Workers

Mr. J. H. Frappier
Director
Consumer Affairs, Regulation, and Licensing
P.O. Box 1156
Jefferson City, MO 65102
(314) 751-3946

Date of establishment: 1982
Annual State funding (millions): $18

Program type:

Labor/technical assistance.

Program services:

Links industry with, university resources.
Technical support provided by State.

Description:

This program represents a cooperative effort between General Motors and the State to retrain displaced autoworkers in new skills needed by automated manufacturing processes in automobile factories.

Higher Education Research and Applied Projects Funds

Mr. Mike McManis
Coordinator
Missouri Department of Higher Education
600 Monroe St.
Jefferson City, MO 65102
(314) 751-2361

Date of establishment: 1982
Annual State funding (millions): $1,5

Program type:

Capital provision assistance.
High-technology education.
Labor/technical assistance.

Program *services:*

Grants for research.
Links industry with university resources.
Grants for development.

Description:

This program offers challenge grants to Missouri colleges and universities for research and applied development projects likely to stimulate private investment and create new jobs in high-technology areas.

Industrial Development Funding Act

Mr. Barry Jackson
Manager of Financing
Missouri Division of Community and Economic Development
P.O. Box 118
Jefferson City, MO 65102
(314) 751-2686

Date of establishment: 1982
Annual State funding (millions): $0.800

Program type:

Capital provision assistance.
General industrial development.

Program *services:*

Industrial revenue bonds.
Long-term,low-interest loans.
State resources promotion.
Physical plant provision.

Description:

The Missouri Division of Community and Economic Development was established to enhance economic stability in the State. The Industrial Development Funding Act program encourages businesses to locate in Missouri, expand existing facilities in the State, promote foreign investment, and increase State imports. In addition, the program offers low-interest loans for capital improvement needed to attract new industry. The program issues bonds to help promote growth in diverse areas of industry and trade.

Missouri Economic Development Commission

Mr. Barry Jackson
Manager of Financing
Missouri Division of Community and Economic Development
P.O. Box 118
Jefferson City, MO 65102
(314) 751-3674

Date of establishment: 1982
Annual State finding (millions): $0.700

Program type:

Capital provision assistance.
General industrial development.

Program services:

Loan guarantees.
Industrial revenue bonds.
State resources promotion.
Physical plant provision.

Description:

This Commission has the authority to pledge up to $1 million from the State reserve to guarantee loans for projects that will generate new jobs and contribute to the economic well-being of the State, Approval also requires that the borrower can repay the loan, and the properties financed are secured by a mortgage or deed of trust. The commission can guarantee 90 percent of the value of privately obtained loans, up to $1 million, which must be for machinery, equipment, and/or buildings,

In addition, this office provides special services to small business through assistance in loan packaging for development using all sources of financial assistance.

Missouri Enterprise Zones

Mr. Bob Simones
Manager
Missouri Division of Community and Economic Development
P.O. BOX 118
Jefferson City, MO 65102
(314) 751-4849

Date of establishment: 1982
Annual State funding (millions): N/A

Program type:

Labor/technical assistance.

Program services:

Enterprise zones.
Training vouchers for new jobs,
Tax–favorable business climate.
Abatement of local property tax.

Description:

This legislative initiative authorizes tax credits to businesses that establish or expand business operations in an enterprise zone and invests in capital or creates new jobs. Firms locating in a zone would be eligible for an investment tax credit equal to 10 percent of the first $10,000 in investments, 5 percent of the next $90,000, and 2 percent of the rest, up to $1,200 tax credit for each new employee hired.

Missouri Tax Program for Business

Mr. John Kleindienst
Senior Research Associate
Missouri Division of Community and Economic Development
Capitol Bldg.
Jefferson City, MO 65101
(314) 751-3674

Date of establishment: 1980
Annual State funding (millions): N/A

Program type:

General industrial development.

Program services:

Tax—favorable business climate.
Training vouchers for new jobs.

Description:

The Missouri tax program for business includes two different packages-the Tax Relief Credit for New or Expanded Business Facilities, and Missouri Tax Increment Financing:

1. The Relief Credit program offers tax credits for employers who create new jobs and generate new investment. The credit allowed to an existing business employer is equal to $100 for each new job created and/or $100,000 of new investment. The credit allowed to a new employer is equal to $75 for each new job created and/or $100,000 of new investment.
2. The tax investment financing program rebates tax funds to local community to repay Industrial Revenue Bonds used for development.

University of Missouri—Office of Science and Technology

Dr. Thomas C. Collins
Associate Vice President for Academic Affairs
University of Missouri
309 University Hall
Columbia, MO 65211
(314) 882-4893

Date of establishment: 1981
Annual State finding (millions): $0.1

Program type:

High-technology development.
High-technology education.
Labor/technical assistance.

Program services:

Training provided by the State.
Links industry with university resources.

Description:

This program coordinates industry and university resources, to help with product and process development in the manufacture and use of robotics, and to transfer this technology from research and development centers to industry. The Center has recently received a $250,000 grant from the National Science Foundation for computer-aided design and manufacturing training.

Montana

As part of "Build Montana," a general industrial development campaign, the Governor recently convened an ad hoc Council of Technology to advise him on high-technology development in the State. The State boasts an excellent living environment and low taxes as incentives for industrial business development. In addition, the State is exploring the use of State resources to develop new technologies. The legislature is also considering a proposal to allow Montana's Unified Investment Fund to invest in State industry.

The legislature also has before it a proposal to create a Council on Science and Technology, which would develop specific priorities in scientific, technical, and

engineering research for economic development purposes. The Council will have the ability to conduct specific scientific and research projects which may be of use to high-technology firms in Montana. It may also have the ability to develop technology transfer mechanisms for licensing university-developed patents and disseminating technological and engineering information.

Programs

General *industrial development*

Montana Department of Commerce

Montana Department **of Commerce**

Mr. Gary Buchanan
Director
Montana Department of Commerce
1424 9th St.
Helena, MT 59620
(406) 449-3494

Date of establishment: N/A
Annual State finding (millions): N/A

Program type:

General industrial development.

Program services:

State resource promotion.
Tax.
Physical plant assistance.

Description:

The State provides technical and management assistance in such areas as accounting, plant design, product development, and marketing analysis. It provides assistance through grants utilizing private consulting services and the university systems' teaching and research staffs.

In addition, to encourage economic development in the State of Montana:

- local governments may issue industrial revenue bonds;
- local governments may authorize a 50 percent property tax reduction for the first 5 years of a business' operation; and
- State government may authorize tax credits against corporate income tax for jobs created. (This provision virtually eliminates corporate income taxes during the first 3 years of operation for labor-intensive firms.)

Industrial Development Division

Ms. Dolores Wilson
Industrial Analyst
Industrial Development Division
P.O. BOX 94666
Lincoln, NE 68509
(402) 471-3774

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

General industrial development.

Program services:

Investment capital.
Links industry with university resources.

Description:

This office recently completed a study of State resources and future economic growth, considering the development of high-technology industry in the State. As a result, it recommended a closer working relationship between industry and the universities. In addition, the State plans to strengthen university research and development capabilities, and to target specific industries whose growth in the State appears promising. In order to help new and expanding business grow, the State provides funding for plant development through the Development Finance Fund. This office is also working closely with the Federal Small Business Innovation Program.

Nebraska

The Governor plans to implement the recommendations of a recently completed study on State resources in economic development. These include: promoting university-industry relations; strengthening university research and development; and targeting certain high-growth industries for development in the State.

The State Department of Economic Development advises individuals and firms on product development. This is done in cooperation with the University of Nebraska's College of Engineering, which evaluates product ideas. Discussions are currently underway to expand these efforts. The University's Business Development Center also plans to assist small businesses with technical matters relating to research grants under the Federal SBI Program.

Programs

Labor/technical assistance

Patent Development Program

General industrial development

Industrial Development Division

Patent Development Program

Mr. Darrell Unman
Manager, Licensing and Patent Office
Nebraska Department: of Ecomonic Development
P.O. Box 94666
Lincoln, NE 68509
(402) 471-3786

Date of establishment: 1967

Annual **State** funding (millions}: N/A

Program type:

Labor/technical assistance.

Program services:

Patent searches.
Grants available.
Licensing assistance.

Description:

The Nebraska Department of Economic Development's Patent Development Program is responsible for the administration and commercialization of patents owned by the State of Nebraska. Efforts in commercialization have been particularl,sucessful because the Department, as part of its regular programs, also works closely with companies interested in plant reloc ation and business expansion opportunities.

Benefits to the State may accrue in the form of royalties and/or licensing fees, new industrial locations, expanded employment and increased tax revenues. Moneys accruing to the program are reiinvested in additional contract research projects.

Nevada

'The Commission on Economic Diversification., appointed by the former Governor, recommended creating a new public development organization—NEVADA INC.–to assist new and expanding industries, with particular emphasis on economic diversification. Other Commission recommendations included tax exemptions for capital improvement and new equipment; State assistance to local governments for economic development; and development of State education to promote technical skilIs. The newly elected Governor, who campaigned against cuts in university funding and in favor of diversifying the State's industrial base, has indicated that he will implement most of these recommendations.

Programs

General industrial **development**

Nevada Office of Economic Development

Nevada Office of Economic Development

Mr. Ted Bendure
Assistant Director
Department of Economic Development
1100 E. Williams St.
Carson City, NV 89710
(702) 885-4322

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

General industrial development.

Program services:

Industrial revenue bonds.
Tax- favorable business climate
Information dissemination.
Task force.

Description.

A task force on the diversification of industry in the State is now under way.

New Hampshire

New Hampshire borders on eastern Massachusetts, a major growth center for high -technology industries, and it has received some of the benefit of proximity. The State's economic development strategy encourges new and expanding businesses, and several high-technology companies have located branch plant in New Hampshire to take advantage of its favorable tax structures and the availability of capital and skilled labor. The State works closely with private business and universities through the nonprofit Center for New Hampshire's Future, but to date there are no dedicated government programs to develop high-technology industry.

The new Governor, himself an engineer and the founder of a high-technology company, supports such development and places greatest emphasis on industry-university partnerships, with the private sector taking the lead. However, he recently told his fellow governors that "We like all of you will plagiarize all the good ideas" that have been developed in other States. He has also stressed the

need to define "high technology" **more broadly, so as to include the delivery of health care and social services.**

Programs

General industrial development

New Hampshire Department of Resources and Economic Development

New Hampshire Department of Resources and Economic Development

Mr. George Gilman
Commissioner
Department of Resources and Economic Development
P.O. Box **856**
Concord, NH 03301
(603) 271-2591

Date of establishment: N/A
Annual State finding (millions): N/A

Program type:

General industrial development.

Program services:

Market development assistance.
Assists in finding venture capital.
Licensing information.

Description:

The department offers to business: a list of industrial location recommendations; documented labor analysis; community and regional information; financial assistance; market demand studies; commercial retail market statistics; and marketing assistance programs. In addition, six Vocational-Technical Colleges and the State Technical Institute are located throughout the State to permit high school graduates obtain advanced training and develop skills.

This department also supports the Industrial Development Authority, which offers guaranteed loans and industrial revenue bond financing. In addition, it refers businesses to financial sources in other State government offices and the private sector.

New Jersey

New Jersey has recently set up a Commission on Science and Technology to develop an overall strategy for the development of high-technology industry in the State. The-Commission's four task forces will identify technologies to be targeted and mechanisms for mobilizing the State's considerable resources, including venture capital, skilled labor, strong universities, and a private research base in pharmaceuticals and telecommunications.

Several high-technology bills have been introduced in the legislature, including proposals to create a public foundation to assume the functions of the Commission, and a public-private corporation to provide venture capital and technical assistance for high-technology entrepreneurs. An earlier State initiative of this kind, the Office for Promoting Technological Innovation (OPTI), suffered from financial and design problems that will be corrected in future initiatives.

The State also has the advantage of a private, nonprofit corporation, the Research and Development Council of New Jersey, which makes policy recommendations in science and technology and promotes university/industry relations in the high-technology field.

Programs

High-technology Development

Governor's Commission on Science and Technology

Governor's Commission on Science and Technology

Mr. Edward Cohen
Executive Director
Governor's Commission on Science and Technology
225 W. State St., CN 542
Trenton, NJ 08625
(609) 292-1970

Date of establishment: 1982
Annual State funding (millions): N/A

Program type:

High-technology development.

Program services:

Task force.

Description:

The Governor of New Jersey created the Commission on Science and Technology to develop a comprehensive plan and make policy recommendations to foster a high-technology economy, especially where economic growth and job creation are concerned. A primary objective is to strengthen linkages between New Jersey's industries and universities for applied research, with government facilitating these relationships.

New Mexico

The Committee on Technical Excellence in New Mexico, in its report on *Enhancing New Mexico's Lea&-ship in H&h- Technology lndustry Development,* **has recommended the promotion of a "Rio Grande Research Corridor," the promotion of technical excellence at New**

Mexico's universities, and the commercialization of desirable technologies by firms in the State.

The new Governor has also called for the further development of centers of excellence in high-technology fields and for strengthening university/industry cooperative ventures. State agencies have also targeted high-technology industries in their general economic development programs, and government officials are looking into the development of venture capital and product development agencies.

Programs

High-technology development

Department of Commerce and Industry
Economic Development Division

High-technology education

Technology Programs at Albuquerque Technical Institute

Labor/technical assistance

Technology Programs at Albuquerque Technical Institute

Department of Commerce and Industry

Mr. Russell Autry
Secretary
Department of Commerce and Industry
State Capital Bldg.
Santa Fe, NM 84501
(505) 827-3008

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

High-technology development.

Program services:

Task force.
Tax—favorable business climate.
Licensing assistance.

Description:

This office administers the recommendations of the State Task Force on Technical Innovation and Excellence. In addition, it helps new and expanding industry obtain licensing, train new workers, find plant locations, help with mortgage financing and residential property location. In addition, one division works closely with small businesses to help them become established.

Economic Development Division

Mr. James Garvin
Director
Economic Development Division
Bataan Bldg.
Santa Fe, NM 87503
(505) 827-6026

Date of establishment: 1983
Annual State funding (millions): N/A

Program type:

High-technology development.

Program services:

Task force,
State resources promotion (infrastructure).

Description:

This department administers recommendations of the Governor's Committee on Technical Excellence. It is currently helping develop the Rio Grande Research Corridor, promote focused areas of technical excellence at New Mexico Universities, and encourage industrialization with desirable industries.

Technology Programs at **Albuquerque** Technical Institute

Mr. Robert Dorak
Chairman of Technology Programs
Albuquerque Technical Vocational Institute
525 Buena Vista, S.E.
Albuquerque, NM 87106
(505) 848-1400

Date of establishment: 1979
Annual State funding (millions): N/A

Program type:

High-technology education.
Labor/technical assistance.

Program services:

Labor assistance.
Technical support provided by State.
Trains technical staff for business.

Description:

This Institute has targeted several important technologies for developing the skills of students and industrial workers. The programs specialize in areas **such as solar** power development and installation, computer programming, robotics, and fiber optics. The courses offer training to young people in advanced technologies and **retrain** displaced workers who wish to advance their careers.

New York

The primary goal of New York's high-technology development strategy is to retain and expand the State's existing technology-related industrial base. The former Governor designed comprehensive policies for advancing high-technology economic growth, as well as the continued development of the traditional industrial base. The new Governor is expected to continue this overall strategy. Its goals include improving the efficiency and productivity of the State's existing industry and nurturing the growth of small high-technology firms.

Overall, this State's approach is considered more sophisticated and rigorous than those of many other States. The New York Science and Technology Foundation, reconstituted in 1981, coordinates efforts to stimulate research and encourage technological innovation. Many of the initiatives launched by the Foundation have later been integrated with the programs of the Commerce and Education Departments.

State officials report that there is strong support for further high-technology development from the private sector, including the State's existing high-technology firms, and from the university and educational systems. One innovative program at SUNY Stony Brook is the Center for Industrial Cooperation, which assists member businesses in technology transfer, product and market development, and research. The State also reports being successful in attracting venture capital and foreign investment,

Programs

High-technology development

New York Science and Technology Foundation
Corp. for Innovation Development

Capital provision assistance

Corp. for Innovation Development
New York State Urban Development Corp.
New York Job Development Authority

Labor/technical assistance

New York Job Development Authority
New York Science and Technology Foundation
New York State Department of Commerce

General industrial development

New York Job Development Authority
New York State Department of Commerce
New York State Urban Development Corp.

Corp. for Innovation Development

Mr. John Defiggos
Deputy Executive Director for Operations
New York State Science and Technology Foundation
99 Washington Ave.
Albany, NY 12210
(518) 474-4349

Date of establishment: 1981
Annual State funding (millions): $1.1

Program type:

Capital provision assistance.
High-technology development.

Program services:

Loan–debt,
Equity loans.
Subordinated loans.
Stock or royalty rights.
Investment capital.
Market development assistance.
Product development assistance.
Assists in finding venture capital.

Description:

The New York Corp. for Innovation Development, established within the Science and Technology Foundation, provides financial assistance and technical services to innovative technology-based new business ventures/startups. A special grant from the U.S. Department of Commerce (EDA) funds this Corporation, which focuses on startup situations with no track record but with significant potential. The Corporation will generally invest between $50,000 and $100,000 but not more than $250,000.

New York Job Development Authority

Mr. Robert T. Dormer
President
New York Job Development Authority
3 Park Ave., 34th Floor
New York,, NY 10016
(212) 578-4181

Date of establishment: 1962
Annual State funding (millions): Bond

Program type:

Capital provision assistance.
General industrial development.
Labor/technical assistance.

Program services:

Bond issue to raise funds.
Low-interest loans.

Description:

The principal activity of the Job Development Authority (JDA) is making business and industrial loans, technically described as "special purpose" loans. JDA functions as a bank, making long-term, low-cost loans for real estate, machinery, and equipment. It may lend up to 40 percent of project costs in connection with construction, acquisition, rehabilitation or improvement of industrial or manufacturing plants, research and development facilities, or other eligible business facilities.

JDA may also participate in financing the purchase of machinery and equipment to be located and used within the State. These loans may not be subordinate, but may cover up to 90 percent of machinery and equipment costs. JDA is set up to act as a catalyst for the investment of private funds.

New York Science and Technology Foundation

Mr. John Defiggos
Assistant Director
New York State Science and Technology Foundation
99 Washington Ave.
Albany, NY 12210
(518) 474-4349

Date of establishment: 1982
Annual State funding (millions): $1.4

Program type:

High-technology development.
Labor/technical assistance.

Program services:

Information dissemination.
Market development assistance.
Assists in finding venture capital.
Grants for development.
Technical support provided by State.
Grants available.
Investment capital.
Physical plant provision.

Description:

The purpose of this Foundation is to identify and shape the "critical massing" of industrial, scientific, and academic talent and resources necessary to foster high-technology industries in New York. A nine-member Board of Directors represents the private sector, with the Commissioners of Education and Commerce also serving. The mission of the Foundation is: to assume a central role in stimulating research and development; to support and encourage technological innovation; to diffuse benefits derived from new developments in science and technology; and to strengthen the State's leadership position as a research and development center. The Foundation has six major program areas:

- Policy and Strategy Development-studies expansion possibilities;
- Assistance and Services–develops special training programs;
- Regional High Technology Development—encourages locally formed high-technology councils;
- Research and Development-awards research and development grants for university-based research with commercial application;
- Centers for Advanced Technology Development–grants to universities; and
- Corp. for Innovation Development–see above.

The Foundation has targeted two technology areas which represent the greatest economic opportunity for the State: electronics/information and medical/biological.

New York State Department of Commerce

Mr. William J. Donohue
Commissioner
New York State Department of Commerce
99 Washington Ave.
Albany, NY 12245
(518) 474-4100

Date of establishment: N/A
Annual State funding (millions): $27

Program type:

General industrial development.
Labor/technical assistance.

Program services:

State resource promotion.
Tax—favorable business climate.
Physical plant provision.
Information dissemination.
Technical training provided by the State.

Description:

The Department of Commerce promotes domestic and international investment in New York State to create private sector jobs and to generate additional tax revenue. The Department works with new and expanding industry, imports and exports, and State infrastructure to enhance the overall State economic welfare.

In addition, this office administers the State tax program which includes the following: Job Incentive Program, Capital Investment Credit, Employment Incentive Credit, Research and Development Tax Credit, Small

Business Tax Incentives, and Business Property Tax Exemption.

New York State Urban Development Corp.

Mr. Donald Glickman
Acting Chief Executive Officer and Vice President
New York State Urban Development Corp.
1515 Broadway, 52nd Floor
New York, NY 10036
(212) 930-0200

Date of establishment: 1968
Annual State finding (millions): $800 bond

Program type:

Capital provision assistance.
General industrial development.

Program services:

Bond issue to raise venture capital.
Product development assistance.
Market development assistance.

Description:

The **Urban Development Corp. (UDC), a corporate governmental agency of New York State, executes financing and development programs designed specifically to help business and industry expand, modernize, or relocate and assists new companies coming into the State. UDC has the power to purchase, lease, sell, and acquire property, apply for and administer grants, and issue tax-exempt revenue bonds. Working in partnership with private enterprises, UDC's economic development programs maximize private sector opportunities for growth and stimulate investment in the economy of the State. Since its inception in 1976, UDC economic development programs have generated $800 million worth of projects, which have been completed or are presently under construction. UDC's staff includes financial analysts, lawyers, engineers, architects, and planners who can provide technical services and expertise to accelerate and facilitate projects.**

North Carolina

The State of North Carolina is often looked to for leadership in the area of high-technology industrial development. Starting with the North Carolina Board of Science and Technology and the Research Triangle Park, the State has become a model of government-industry-university cooperation to develop new technology-based industries. In addition, the State works aggressively to retain existing industry and attract new firms to the State. To date, in fact, the State has been more successful in attracting branch plants and relocating facilities, rather than encouraging the creation of new businesses.

The Board of Science and Technology, chaired by the Governor, was established in 1963. It functions as a "nerve center" connecting research institutions with State and local government agencies and with the private sector. Working closely with the State university system, the Board has helped to encourage cooperative university-industry research and development. More recently, the Governor appointed a Science and Technology Task Force in 1982, composed of Board members plus 15 leading citizens, to recommend policy in science and mathematics education, research and higher education, and technological innovation.

Programs

High-technology **development**

North Carolina Board of Science and Technology

High-technology education

Microelectronics Center of North Carolina
North Carolina Biotechnology Center

General industrial development

Division of Industrial Development

Division of Industrial Development

Mr. Alvah H. Ward, Jr.
Director, Division of Industrial Development
North Carolina Department of Commerce
430 N. Salisbury St.
Raleigh, NC 27611
(919) 733-4151

Date of establishment: N/A
Annual State finding (millions): N/A

Program type:

General industrial development.

Program services:

Market development assistance.
Location assistance.
Labor.

Description

This office offers **many different services to help industry locate or relocate in the State. It provides: industrial information about State communities; business trends and market development possibilities; industrial location services; environmental services; labor availability services; and financial services such as finding capital for physical plant or product development. In addition, this office makes new industries aware of the tax and regulation structure, offers marketing services, and helps with international trade, importing, and exporting.**

Microelectronics Center of North Carolina (MCNC)

Dr. Donald Bielman
Director
Microelectronics Center of North Carolina
P.O. Box 12889
Research Triangle Park, NC 27709
(919) 541-7286

Date of establishment: 1981
Annual State funding (millions): $24.4

Program type:

High-technology education.

Program services:

Links industry with university resources.

Description:

MCNC was created to help North Carolina's universities educate students in fields related to microelectronics by providing research and training facilities. MCNC is a nonprofit coordinating body, helping five State universities work together in this area.

North Carolina Biotechnology Center

Dr. Quentin Lindsey
Science and Public Policy Adviser
Office of the Governor
116 W. Jones St.
Raleigh, NC 27611
(919) 733-6500

Date of establishment: 1981
Annual State funding (millions): $0.1

Program type:

High-technology education.

Program services:

Links industry with university resources.

Description:

The North Carolina Biotechnology Center conducts research and development in biotechnology. The Center acts as a State cooperative effort to experiment and "learn by doing." The Center plans: to stimulate further development of North Carolina's interdisciplinary research community; to facilitate mutually beneficial collaboration between industry and universities; and to stimulate the biotechnology industry in the State.

North Carolina Board of Science and Technology

Dr. Quentin Lindsey
Science and Public Policy Adviser
Office of the Governor
116 W. Jones St.
Raleigh, NC 27611
(919) 733-6500

Date of establishment: 1979
Annual State funding (millions): $0.4 (1968 original funding)

Program type:

High-technology development.

Program services:

Links industry with university resources.
State resource promotion.
Research and development.

Description:

The Board's mission is to identify and **support research needs of public and private agencies, institutions and organizations, and to recommend policies, procedures, organizational structures, and financial requirements that will promote effective use of scientific and technological resources in fulfilling research needs.**

The Board work plan is organized into programs, including: R&D in North Carolina; Scientific Personnel, Equipment and Facilities; Institutional Support for Economic Development; Environmental Management; Human Resources Development; Local Government-Related Research; Public Understanding of Science; Small Grants Program; and Exploration of New Fields. Each program is implemented through specific projects, sponsored by the Board and generally carried out through joint effort by research institutions and government finding.

The Board consists of seven members from the public sector, six from the university sector, and two from the private sector, with the Governor acting as Chair. The Board is divided into committees that guide particular activities pertaining to the need and/or use of scientific resources in relation to the following objectives: strengthening science and technology base, improving public understanding of science, forming policy, assisting State agencies and local governments, and assisting private industries and institutions.

North Dakota

The State government provides numerous incentives for general industrial development, and the Governor places particular emphasis on the need to create challenging jobs in the State. As one official put it, "North Dakota's largest export is its young people." The State provides a tax package favorable to business development and offers labor training for new and expanding industry.

The private sector has joined with the universities to **set up an "Industry North Dakota" program, which will take inventions by citizens to the universities for development. North Dakota also boasts the only wholly State-owned and State-operated bank in the Nation, established in** 1919 to encourage industry, commerce, and agriculture. Most of the bank's financial assistance is currently provided to the agricultural community, but there is a new "Beginning Businessman's Program" that will finance up to 60 percent of a new business, in hopes of encouraging growth in technology-based industries.

Programs

Capital provision assistance

Bank of North Dakota

General industrial development

Economic Development Commission

Bank of North Dakota

Mr. Herb Throndall
President
Bank of North Dakota
P.O. Box 1657
Bismark, ND 58502
(701) 224-5600

Date of establishment: 1919
Annual State finding (millions): N/A

Program type:

Capital provision assistance.

Program services:

Loans.
Loans guaranteed.

Description:

This bank, the only State-owned and operated bank in the Nation, has a special program for small and new businesses called the "Beginning Businessman's Program," which pays up to **60 percent of startup costs for a new venture. In addition, the bank guarantees loans, provides funding for physical plant acquisition and improvement, and helps businesses relocate into the State. According to State information, this program has helped many types of small business.**

Economic Development Commission

Mr. David Torkelson
Chief Research Analyst
Economic Development Commission
1050 E. Interstate Ave.
Bismark, ND 58501
(701) 224-4190

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

General industrial development.

Program services:

Tax—favorable business climate.
Link industry with university resources.
Reduction in State corporate business tax.
State resources promotion (infrastructure).
Technical training provided by State.
Abatement of local property tax.

Description:

This office **develops industrial possibilities for the State. It aims to increase the amount of science and math taught in schools, help upgrade engineering taught in the State universities, provide tax incentives for business, and help businesses locate in the State.**

Ohio

In 1982, as part of a high-technology development strategy, the Ohio Legislature created the Industrial Technology and Enterprise Board to make recommendations to the Governor about industrial development. This Board will also work closely with the Ohio Development Financing Commission (ODFC) to provide capital and product development assistance to new and expanding industry in the State. The Governor plans to implement other changes designed to encourage high-technology development in a State that must cope with both high unemployment and a changing industrial base.

The State has enacted enterprise zone legislation to encourage development in underdeveloped areas; the zones will be administered on the local level. Active local initiatives are already under way in several cities, including Columbus, Cleveland, and Toledo.

Programs

High-technology development

Industrial Technology and Enterprise Board of ODFC

Capital provision assistance

Economic Development Financing Program
Industrial Technology and Enterprise Board of ODFC
Ohio Development Financing Commission

General industrial development

Ohio Development Financing Commission
Ohio Enterprise Zones

Economic Development Financing Program

Ms. Mary Beardan
Loan Officer, Special Services
Department of Development
P.O. Box 1001
Columbus, OH 43216
(614) 466-7784

Date of establishment: 1980
Annual State funding (millions): $70 bond

Program type:

Capital provision assistance.

Program services:

Long-term, low-interest loans.
Bond **issue to raise capital.**
Loans.

Description:

This corporation was created by legislative mandate to provide direct loan assistance and guarantees to Ohio companies that want to expand their facilities and in so doing provide new jobs or preserve existing ones. Funding for this program is obtained by designating 15 percent of liquor profits, to retire original bond debt. The types of assistance available are: I) State guarantees which would provide for repayment of up to 90 percent of the unpaid principal amount of a project loan upon default; and 2) direct loans, at favorable rates, of up to 75 percent of project cost. In order to be eligible, the proposed project must be located in an "economic needs" area of the State, must be financially sound, adequately secured, and the applicant must be unable to obtain necessary financial assistance at comparable terms through ordinary financial channels.

Industrial Technology and Enterprise Board of ODFC

Mr. Steve Holtzman
Director, Industrial Technology and Enterprise Board
Ohio Development Financing Commission
P.O. Box 1001, 30 E. Broad St.
Columbus, OH 43216
(614) 466-5420

Date of establishment: 1982
Annual State finding (millions): $0.15

Program type:

Capital provision assistance.
High-technology development.

Program services:

Venture capital provision assistance.
Direct investment in startup.
Loan-stock or royalty rights.
Loan-equity.
Links industry with university resources.

Description:

The **Industrial Technology and Enterprise Board (ITEB) of the Ohio Development Financing Commission (ODFC) administers two grant programs: 1) the Development Grant program, and 2) the Resources programs. Modeled after the Massachusetts Technology Development Corp., this program was set up to support the growth of high-technology firms, and to encourage en--hanced university/industry cooperation. This program has just been established; a request for $10 million in operating funds has been made of the 1983 Ohio Legislature.**

1. **The ITEB** *Development Grant Program* will furnish capital to small- and medium-sized innovative firms whose projects will benefit the State by creating jobs and promoting the development of new technologies.
2. The *Resources Program* is designed to investigate and assist the implementation of programs and projects that could enhance cooperative university/ industry relations in Ohio.

Ohio Development Financing Commission

Mr. Louis Kuhman
Director, Ohio Development Financing Commission
P.O. Box 1001
30 East Broad St.
Columbus, OH 43216
(614) 466-5420

Date of establishment: 1963
Annual State funding (millions): $7

Program type:

Capital provision assistance.
General industrial development.

Program services:

Industrial revenue bonds.
Long-term, low-interest loans.
Subordinated loans.
Loans guaranteed.

Description:

The Ohio Development Financing Commission (ODFC) operates three industrial financing programs: 1) Direct Loans; 2) Economic Development Revenue Bonds; and 3) Guaranteed Loans. Since its inception in 1965, OFDC has helped finance more than a quarter billion dollars of projects.

1. *Direct Loans. -This* program is designed to lend up to 30 percent of the total cost of land and buildings for an industrial project. ODFC attempts to target direct loan funds into what they term "future-oriented" industries.
2. *Economic Development Revenue Bonds* **–This** program allows the State to finance up to 100 percent of the fixed assets of a project at an interest rate usually 3 percent below the conventional rate. The funds from the bond issue may be used for land, building and certain equipment as well as professional costs such as attorney, architect, and underwriting fees.
3. *Guaranteed* Loans. -This program authorizes the **State to use the Ohio "unclaimed funds" to insure payment of first mortgage loans made by lending institutions to an expanding company. This guarantee allows a company to obtain a loan which would otherwise be difficult to obtain.**

ODFC also operates a financial clearinghouse service to identify potential capital sources for expanding businesses throughout the State.

Ohio Enterprise Zones

Mr. Larry Blake
Director
Department of Development, Special Services
P.O. Box 1001
Columbus, OH 43216
(614) 466-7784

Date of establishment: 1982
Annual State funding (millions): N/A

Program type:

General industrial development.

Program services:

Enterprise zones.
Training vouchers for new jobs.
Tax—favorable business climate.

Description:

This Enterprise Zone program is a cooperative venture of local and State government, in which the State defines an enterprise zone in local areas in need of industrial development. The local area grants some real estate or personal property tax deductions relating to the creation of jobs, wages to unemployed, or day care expenses.

Oklahoma

Oklahoma has a two-part plan to attract and retain industry in the State: 1) create subdivisions that can independently develop infrastructure or change local ordinances to attract specific kinds of industry; and 2) provide a customized training program for industry. However, there are at present no State programs specifically targeted on high-technology development.

The State has a strong program in vocational/technical training, and the government works closely with the private sector in economic development, with strong input from labor. An example of this is the privately funded Oklahoma Productivity Center at Oklahoma State University, which serves as a resource for worker involvement in decisionmaking and innovation. Another nonprofit organization is the Industrial Research and Development Center, which develops innovations of economic benefit to rural parts of the State.

Programs

General industrial development

Oklahoma Department of Economic Development

Oklahoma Department of Economic Development

Mr. Eastal Hart
Director
Department of Economic Development
P.O. Box 53242
Oklahoma City, OK 73152
(405) 521-2401

Date of establishment: 1955
Annual State funding (millions): $2.1

Program type:

General industrial development.

Program services:

Labor assistance.
State resources promotion (infrastructure).
Information dissemination.
Tax–favorable business climate

Description:

This office is working closely with political subdivisions in the State to develop infrastructure and train labor to attract industry.

The State reports a favorable tax climate for business, claiming a corporate tax rate of "only 4 percent." Other tax incentives for industry include industrial exemptions from retail, sales, and use taxes, and a constitutionally limited property assessment. Oklahoma has 100 percent industrial revenue bond financing available for land, buildings, and equipment.

Oregon

Oregon has a well-established industrial base in electronics and has attracted a considerable amount of high-technology development, partly due to its proximity to California. High-technology growth, centered primarily in the Portland area, has thus far taken place without significant direct State assistance.

The Governor has appointed an Economic Development Action Council to plan changes in the State approach to growth, with the goal of attracting high-technology industry. The Economic and Employment Recovery Plan and the Orgeon Economic Growth Plan are two parts of Governor's strategy to enhance economic development in the State. These plans include a computerized inventory of all industrial land in the State; State technical assistance to the business community; and a revolving loan fund to provide the infrastructure necessary for industrial development.

Programs

General industrial development

Economic Development Department

Economic Development Department

Mr. Peter Tryon
Development Specialist
Economic Development Department
155 Cottage St., N.W.
Salem, OR 97310
(503) 373-1200

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

Capital provision assistance.
General industrial development.
Labor/technical assistance.

Program services:

Loans.
Industrial revenue bonds.
Abatement of local property tax.
Tax—favorable business climate.
State resources promotion (infrastructure).
Task force.
Assists in finding venture capital.
Licensing assistance.

Description:

Although there is no dedicated high-technology development program operated by the State, the State government has encouraged the growth of the high-technology sector. The State has prepared an Economic and Employment Recovery Plan and the Oregon Economic Growth Plan which are designed to diversify its industrial bases. Both plans recommend a variety of action that will assist and encourage all areas of industrial growth. The Economic and Employment Recovery Plan would create a computerized inventory of all industrial land statewide, and establish a revolving loan program to help counties provide public services for business development. The Oregon Economic Growth Plan contains over 30 separate projects such as improving State permit procedures, coordinating educational offerings with industry needs, and encouraging international trade activities.

Special training programs are offered by the Oregon Community Colleges, and others. Generally, these programs are tailored to meet the needs of a particular industry. On the university level, several of these programs are aimed at high-technology skills development.

In addition to these efforts, the State has put together a list of high-technology firms located in the State to attract other firms to the State.

Pennsylvania

Pennsylvania reports a major initiative to advance technology development and promote future economic growth in the State. The key to this effort is a plan to diversify the State's economy away from its traditional reliance on basic manufacturing and resource-based industry, and thus to minimize unemployment resulting from the economic troubles of older industries. In addition, State planners are looking toward advanced production technologies to improve efficiency, productivity, and profitability in traditional sectors.

The Governor, along with the State Department of Commerce, has proposed a four-part plan to promote high-technology development:

1. **increase capital and financing available to advanced technology industries;**
2. **provide technical assistance to new and expanding industry;**
3. **enhance labor skills; and**
4. **promote the expansion of high-technology markets.**

The State has begun to pursue this strategy by setting up new high-technology programs and assisting businesses through existing programs. Dedicated programs include: funding technology innovation centers; targeting State economic assistance to technology-based firms; and increasing marketing and recruiting of high-technology firms. The State Department of Commerce has targeted 27 industry groups for special attention from State agencies. In addition, the State is working closely with the education sector at all levels to enhance math, science, and technical education in the State.

Programs

High-technology development

Ben Franklin Partnership Fund
Pennsylvania Industrial Development Authority

High-technology education

Pennsylvania School for the Sciences

Capital provision assistance

Ben Franklin Partnership Fund

Labor/technical assistance

MILRITE Council ("Making Industry and Labor Right in Today's Economy")
PENNTAP

General industrial development

MILRITE Council
Pennsylvania Industrial Development Authority
PENNTAP

Ben Franklin Partnership Fund

Mr. William J. Cook
Director, Bureau of Technological Development
Department of Commerce
462 Forum Bldg.
Harrisburg, PA 17120
(717) 787-4147

Date of establishment: 1982
Annual State finding (millions): $1.35

Program type:

Capital provision assistance.
High-technology development.

Program services:

Grants available.
Grants for research.
Grants for development.
Links industry with university resources.
Product development assistance.
Assists in finding venture capital.

Description:

This partnership of government, business, and education would provide $1 million in seed money to stimulate Pennsylvania research, development, and training in advanced technology industries through the Pennsylvania Science and Engineering Foundation (which has recently been reactivated). The Partnership will link resources and skills in the public, private, and academic sectors to expand and encourage the development of scientific and technological education, research, and innovation in the State.

Governor Thornburgh has requested for the 1982-83 budget year that funding be increased to $10 million, to be matched on a one-to-one basis by the private sector and higher education. This Challenge grant program will create regional Advanced Technology Centers. These centers, which will be designated by the end of February, will focus on joint research and development, education, and training and entrepreneurial development.

In addition, the Board has $350,000 available this year for the funding of miniresearch and development projects.

MILRITE Council ("Making Industry and Labor Right in Today's Economy")

Mr. Gregg Robertson
Executive Director
MILRITE Council
513 Finance Bldg.
Harrisburg, PA 17120
(717) 783-7408

Date of establishment: 1979
Annual State funding (millions): $0.21

Program type:

General industrial development.
Labor/technical assistance.

Program services:

Task force.
Labor.

Description:

The Pennsylvania MILRITE Council is an independent State economic development agency, created to seek solutions to Pennsylvania's economic problems through the cooperative efforts of business, labor, and government. Its board has 15 members-five each from business, labor, and government. The Council has undertaken a program to create a venture capital limited partnership that will be capitalized with public and private pension funds.

PENNTAP

Mr. Paul Houck
Information Coordinator
Pennsylvania Technical Assistance Program
J. Orvis Keller Bldg.
University Park, PA 16802
(814) 865-0427

Date of establishment: 1965
Annual State finding (millions): $0.15

Program type:

General industrial development.
Labor/technical assistance.

Program services:

Links industry with university resources.

Technical support provided by State.
Market development assistance.
Technical training provided by State.
Trains technical staff for business.
Information dissemination.

Description:

The Pennsylvania Technical Assistance Program (PENNTAP) offers access to technical information and assistance for State business, encouraging economic growth. It services primary technology-transfer and technical assistance for small business. PENNTAP acts as a "technology middleman" by helping firms with technical problems access technology resources that can produce answers and solutions. The Advisory Council consists of 15 executives from the private sector who help guide and plan program activities.

Pennsylvania Industrial Development Authority

Mr. Gerald Kapp
Director
Pennsylvania Department of Commerce
405 Forum Bldg.
Harrisburg, PA 17120
(717) 787-6245

Date of establishment: 1956
Annual State finding (millions): $15

Program type:

General industrial development.
High-technology development.

Program services:

Physical plant provision.

Description:

The Pennsylvania Industrial Development Authority (PIDA) was created in 1956 to stimulate acquisition and construction of industrial buildings to increase employment in the State. It participates in three kinds of projects: industrial development projects; industrial park projects; and multiple tenancy building projects.

The authorizing legislation allows PIDA to make loans for projects in "critical economic areas," designated based on unemployment statistics. The percentage of costs PIDA will finance depends on the area of the development and the nature and size of the buyer or tenant. PIDA also generally requires participation by an individual development agency.

For small businesses, a new emphasis in the Agency, PIDA can provide as much as 70 percent of financing for eligible projects.

In addition, the PIDA Board recently approved a new policy earmarking 25 percent of its annual cash flow to advanced technology industries. Since 1980, the amount of PIDA loans to advanced technology industries has steadily increased.

Pennsylvania School for the Sciences

Mr. John McDermott
Director, Pennsylvania School for the Sciences
Pennsylvania Department of Education
333 Market St.
Harrisburg, PA 17108
(717) 783--6598

Date of establishment: 1982
Annual State funding (millions): $0.1

Program type:

High-technology education.

Program services:

Links industry with university resources.
State resource promotion.

Description:

This program offers summer school courses in math and science for students interested in high-technology careers. A number of students took advantage of this program in 1982, and the program will continue in the future.

Puerto Rico

The Governor has recently introduced a bill in the Puerto Rican Legislature which would extend to research and development companies the same package of tax exemptions currently enjoyed by qualifying manufacturing firms. This is just one part of an aggressive industrial development strategy that includes several programs for encouraging high-technology growth. The Commonwealth's Economic Development Administration offers training, research grants, and labor analysis for high-technology firms. The education sector supports high-technology development through the Center for Engineering Research, which provides product and market development assistance to new and expanding firms. The University of Puerto Rico is also the home of the Center for Energy and Environmental Research, which is coordinated by the U.S. Department of Energy.

Programs

Capital provision assistance

Government Development Bank

Labor/technical assistance

Economic Development Administration
Electronics Industry Centers

***General** industrial development*

Economic Development Administration
Government Development Bank

Economic Development Administration

Mr. Jose R. Madera
Administrator
Economic Development Administration
G.P.O. Box **2350**
San Juan, PR 00936
(809) 758-4747

Date of establishment: 1950
Annual State finding (millions): $17.2

Program type:

General industrial development.
Labor/technical assistance.

Program services:

Tax—favorable business climate.
Reduction in State corporate business tax.
Training provided by the State.
Location assistance.

Description:

The **Economic Development Administration (EDA) is the agency responsible for the expansion of manufacturing activity in the Island. Besides monitoring performance of the economy and conducting economic research projects of immediate interest, EDA actively promotes the development of new manufacturing plants and industries in** Puerto Rico.

The **industrial training section of the EDA offers specialized services to manufacturers in the identification, study, implementation, and evaluation of training programs for technicians, supervisors, and production workers in advanced job skills, It also advises manufacturers on the organization, time requirements, and training costs for necessary personnel.**

EDA offers scholarships in managerial, scientific, and technical areas.

Special locational incentives in the form of negotiable cash grants are available for establishing manufacturin, facilities in areas of high unemployment in Puerto Rico. The incentives are administered b, the Puerto Rico Industrial Development Co., which is responsible for construction and maintenance of industrial buildings on the Island.

Electronics Industry Centers

Mr. Luis Diaz Gandia
Director
Economic Development Administration
P.O. Box 6419
Caguas, PR 00626
(809) 833-2955

Date of establishment: 1981
Annual State funding (millions): $2.7

Program type:

Labor/technical assistance.

Program services:

Technical training provided by the State.

Description:

The main thrust of the two Electronics Industry Centers is a specialized, intensive, 38-week training program, leading to a certificate in digital electronics and computer techniques.

The Economic Development Administration, jointly with the Puerto Rico Industrial Development Co. (PRIDCO) created the Electronics Industry Center. PRIDCO provides funding for the facilities and equipment.

Personnel, books, and expenditures are paid from locally generated funds of the Puerto Rico Department of Labor and Human Resources.

Government Development Bank

Mr. Julio Pietrantoni
President
Government Development Bank
Box 32001, Minillas Station
Santurce, PR 00940
(809) 726-2525

Date of establishment: 1942
Annual State funding (millions): N/A

Program **type:**

Capital provision assistance.
General industrial development.

Program services:

Long-term, low-interest loans.

Description:

The Government Development Bank has been active and effective in fostering economic growth with its loan

to finance fixed assets and working capital. Normally loans are made for up to 70 percent of the appraised value of the real estate and up **to 50 percent of the appraised value of machinery and equipment. The rate is tied into the prime rate of major New York banks, although negotiated rates are also possible.**

Rhode Island

This State has begun an examination of high-technology possibilities for its economy. This effort includes **a** proposal to put **a** computer in every elementary and secondary school, **as** well as in community and vocational colleges.

A Strategic Development Commission has studied the possibilities of using State resources in high-technology economic development and has recommended targeting specific industries and linking university research capacities with high-technology industry.

Programs

High-technology development

Strategic Development Commission

Labor/technical assistance

Strategic Development Commission

Capital provision assistance

Industrial Development Bond Program

Industrial Development Bond Program

Dr. Norton Berman
Acting Director
Rhode Island Department of Economic Development
7 Jackson Walkway
Providence, RI 02903
(401) 227-2601

Date of establishment: 1966
Annual State funding (millions): $250 bond

Program type:

Capital provision assistance.
General industrial development.

Program services:

Industrial revenue bonds.
Loans.
Product development assistance.

Inscription:

This program was revived in 1977 to provide financing for industrial development. The program encourages growth of Industrial Parks, offers mortgage guarantees and insurance to industry, and helps the State in its efforts to attract high-technology industry.

Strategic Development Commission

Dr. Norton Berman
Director
Rhode Island Department of Economic Development
7 Jackson Walkway
Providence, RI 02903
(401) 277-2601

Date of establishment: 1982
Annual State funding (millions): N/A

Program type:

High-technology development.
Labor/technical assistance.

Program services:

Task force.
State resources promotion.
Links industry with university resources.

Description:

This Commission was set up to identify high-technology growth possibilities for the State of Rhode Island, and to link industry with university resources. This program, only recently started, will identify target industries for the State.

South Carolina

South Carolina has long been recognized for its outstanding vocational training program. This has been extended into the high-technology area with "Design for the Eighties," a plan to provide high-technology skills training in the State's 16 community colleges, in order to produce a work force that will make the State attractive to expanding high-technology firms.

The State government has targeted seven specific industries and is planning to develop research parks around its three major universities: Clemson, the University of South Carolina, and Charleston Medical College. The legislature is also considering the creation of a finance authority and State support for cooperative research. These efforts will be coordinated with several small business development centers in the university system, funded by the U.S. Small Business Administration.

Programs

High-technology development

Task Force on Industrial Development

kfigh-technology education

Design for the Eighties

Labor/technical assistance

Design for the Eighties
Task Force on Industrial Development

General industrial development

South Carolina Development Board

Design for the Eighties

Mr. William Dudley
Director
Design for the Eighties
111 Executive Center Dr.
Columbia, SC 29210
(801) 758-6915

Date: of establishment: 1978
Annual State funding (millions): $0.45

Program type:

High-technology education.
Labor/technical assistance.

Program services:

Technical training provided by State.
Technical support provided by State.
Links industry with university resources.
Trains technical staff for business.

Description:

Design for the Eighties is now establishing training resource centers for the development of high-technology skills needed in six fields: robotics, machine operation, computer design, microprocessors, advanced office systems, and water control. South Carolina has traditionally offered strong technical education, and these centers should enhance capabilities for the high-technology sectors.

South Carolina Development Board

Mr. Robert Leak
Director
State Development Office
P.O. Box 927
Columbia, SC 29202
(803) 758-3145

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

General industrial development.

Program services:

Links industry with university resources.
Trains technical staff for business.
Industrial revenue bonds.
Task force.

Description:

South Carolina has targeted seven industries to attract or promote within the State. These include pharmaceuticals, microprocessors, machine tools/robotics, agricultural processing, defense-related industries, structural fibers and plastics, and fiber optics.

In addition, the Board is proposing to the State legislature that it establish a finance authority to pool small Industrial Revenue Bond issues, and establish financing plans for small and large manufacturing firms. The Board works closely with the Federal Small Business Development Centers.

Task Force on Industrial Development

Mr. John S. Hooks
Director
Office of the Governor
P.O. Box 11450
Columbia, SC 29211
(803) 758-3208

Date of establishment: 1981
Annual State funding (millions): N/A

Program **type:**

High-technology development.
Labor/technical assistance.

Program services:

Task force.
Links industry with university resources.
State resources promotion (infrastructure).
Information dissemination.

Description:

This group proposed an Industrial Research Board to promote the economic development of high-technology industry in South Carolina, and to enhance the capabilities of South Carolina's State and private universities. Board membership would include representatives from government, education, and industry. Its objectives would include promoting and maintaining a high level of interaction between industrial and academic researchers in the State. In addition, the State hopes to attract high-technology industry by developing industrial research centers on land adjacent to State universities.

South Dakota

This **State's economic strategy does not include a specific plan to encourage high-technology industry, but officials report a favorable business climate and a cooper-**

ative relationship between the banks and industry. South Dakota emphasizes the autonomy of its communities, but the State government works closely with local efforts in towns that are aggressively seeking industrial development. The State also supports six vocational-technical training schools that can provide a customized training program for any new or expanding industry, including an increasing number of skills required in high-technology manufacturing.

Programs

General industrial development

Bureau of Industrial Development

Bureau of Industrial Development

Mr. Eugene Miller
Director
Bureau of Industrial Development
221 S. Central Ave.
Pierre, SD 57501
(605) 773-3158

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

General industrial development.

Program services:

Tax–favorable business climate.
Labor assistance.
Industrial revenue bonds.
State resources promotion (infrastructure).

Description:

This State boasts a favorable tax package to attract industry. In addition, it has six vocational technical schools that will design customized programs for firms.

Tennessee

This State has a large manufacturing sector, and like that of the industrial Midwest it has been hard-hit by economic changes. The labor and financial communities, therefore, are looking to high-technology growth as a source of jobs and revenue.

The overall objective is to capture a larger share of new jobs in emerging growth sectors that are dependent on advances in technologies. *Part* of this effort is reflected in the Governor's strong support for the Knoxville World's Fair, which centered on new energy technologies and other innovations. In addition, the Governor established a Technology Corridor Task Force to study regional development and technical education in the Knoxville-Oak Ridge area. This task force has been replaced by the Technology Corridor Foundation, which will implement its recommendations.

The State's high-technology development strategy is focused on nurturing new ventures as well as attracting expanding industry. Part of this effort includes a "State inventory" of existing technology-based firms and resources. Among these are the Oak Ridge National Laboratory, the Tennessee Valley Authority, and the University of Tennessee, all of which have contributed to the birth of a small high-technology business community around Oak Ridge-Knoxville.

Programs

High-technology development

High-Technology Initiative for Industries
Tennessee Technology Corridor Foundation

High-technology education

Tennessee Comprehensive Education Study Task Force

High-Technology Initiative for Industries

Dr. John Crothers
Director of High-Technology Development
Tennessee Department of Economic and Community Development
1011 Andrew Jackson State Office Bldg.
Nashville, TN 37219
(615) 741-5070

Date of establishment: 1981
Annual State funding (millions): $0.135

Program type:

High-technology development.

Program services:

Assists in finding venture capital.
Task force.
Capital provision assistance.

Description:

With State funding, the Department of Economic and Community Development created the Division of High Technology, Finance, and Service Sales. This office also acted as the host for the Governor's Technology Task Force. In addition, it is looking at in--State development and recruitment of high-technology industries. The Department is evaluating State resources, and plans to find venture capital sources for new and expanding businesses. This office will also work closely with the university sector to link research with lndustrial development.

Tennessee Comprehensive Education Study Task Force

Dr. William H. Payne
Executive Director
Tennessee Comprehensive Education Study
16th Floor–James Polk Bldg.
Nashville, TN 37219
(615) 741-5230

Date of establishment: 1981
Annual State funding (millions): $0.3

Program type:

High-technology education.

Program services:

Task force.
Links university with industry resources.

Description:

This Task Force works closely with the recommendations of the Regional Technology Corridor Governor's Task Force, and implemented joint recommendations for industry and education. The State plans to establish a $20 million comprehensive technical institute to be located within the Knoxville/Oak Ridge Technology Corridor. This will allow interaction between university personnel and industry, transferring technology between the two groups. In addition, this group will study the organization structure of the State.

Tennessee Technology Corridor Foundation

Dr. David Patterson
Staff Director
Tennessee Technology Corridor Foundation
P.O. BOX 2752
Knoxville, TN 37901
(615) 966-2804

Date of establishment: 1982
Annual State funding (millions): $1.5

Program type:

High-technology development.

Program services:

Market development assistance.
Assists in finding venture capital,
Product development assistance.

Description:

This office helps implement the State strategy to develop a high-technology corridor in the Knoxville/Oak Ridge area, coordinating industry with educational and State resources, The Foundation expects to have a 1983 funding level of between $4 million and $5 million, which will permit the completion of the initial development of the Knoxville/Oak Ridge area and allow similar support services to other selected areas of the State.

Texas

The Governor recently received the report from the Texas 2000 Commission, which was appointed by his predecessor. This Commission looked at long-range economic planning issues, including high-technology industrial development, and recommended that the State concentrate on strengthening its research and development facilities. It also recommended establishing a Research and Development Council, coordinating R&D efforts with the private sector; increasing salaries to retain university faculty; providing technical assistance to entrepreneurs; and working with the Federal Government to create incentives for private sector research.

Efforts in university research include a planned electronics research center uniting the resources of Texas A&M, Rice, and the University of Houston. A new Institute for Ventures in Technological Innovation at Texas A&M will work with both the private sector and Federal agencies to promote technological innovation. Considerable high-technology development has also occurred in Austin, in part because of resources and programs at the University of Texas.

In addition to these State efforts, Texas has a tradition of community-based initiatives. One of the most forward-looking communities is San Antonio, which is developing the human resources to become a high-technology center in the years to come.

Programs

High-technology development

Institute for Ventures in New Technology

Labor/technical assistance

Industrial Start-up Training

General industrial development

Texas 2000 Commission
Texas Engineering Experiment Station

Industrial Start-up Training

Mr. Joe Ferran
Manager
Texas Industrial Commission
P.O. Box 12728, Capitol Station
Austin, TX 78711
(512) 472-5059

Date of establishment: N/A
Annual State funding (millions): N/A

Program type:

Labor/technical assistance.

Program services:

Trains technical staff for business.
Links industry with university resources.
State resource promotion.

Description:

The Texas Industrial Commission, through its Industrial Development Department, serves as a liaison between new and expanding industry and the Vocational-Technical Division of the Texas Education Agency. The Commission encourages the Education Department to structure education programs to accommodate the needs of industry currently locating or expanding. It aims to put trained people in touch with jobs.

Institute for Ventures in New Technology (INVENT)

Mr. Franklin Sekera
Director
The Texas Engineering Experiment Station
The Texas A&M University System
College Station, TX 77843
(713) 845-0537

Date of establishment: 1982
Annual State funding (millions): $0.856

Program type:

High-technology development.

Program services:

Links industry with university resources.
Market development assistance.
Product development assistance.

Description:

INVENT integrates science and engineering with the commercial disciplines of marketing, management, and finance to help determine the "credibility" of new ideas.

Texas 2000

Ms. Meg Wilson
Director of Policy Research
Texas 2000
Governor's Office, P.O. Box 13561
Austin, TX 78711
(512) 475-8386

Date of establishment: 1980
Annual State finding (millions): $0.40

Program type:

General industrial development.

Program services:

Task force.
State resources promotion.
Information dissemination.
Links industry with university resources.

Description:

The Texas 2000 Commission reports periodically to the Governor and legislature on the role of research and development, advanced technology, and the State, in economic development. The mission of Texas 2000 is to look at long-range planning issues for State economic development, including high-technology industrial development. The Commission's concerns include rapid growth, research and development, water resources, energy resources, transportation availability, government financing, and Mexican relations.

The Commission recommended that the State focus more clearly on research and development facilities and establish a research and development center. It also recommended that the State coordinate research and development efforts with the private sector, ensure resources for research and development, compensate university faculty on a market basis to retain them, evaluate agencies' roles in research and development, develop technical assistance to entrepreneurs, provide capital through State channels, and work with the Federal Government to create private sector research and development efforts. The Commission helped develop the Institute for Ventures in Technical Innovation (INVENT) at Texas A&M University, which will link university resources with entrepreneurs. The Commission also worked to reorganize traditional industrial development offices to attract advanced technology industries to the State.

Texas Engineering Experiment Station

Mr. W. Arthur Porter
Director
The Texas Engineering Experiment Station
The Texas A&M University System
College Station, TX 77841
(713) 845-0537

Date of establishment: 1914
Annual State finding (millions): $30

Program type:

General industrial development.

Program services:

Links industry with university resources.
State resource promotion.

Description:

The **primary purpose of the Texas Engineering Experiment Station (TEES) is to serve and support the business and industrial community of Texas and the Nation through research and development. TEES has 25 separate research divisions with at least that many identifiable subdivisions. There are a total of some 800 people involved in the collective research activities of more than 400 projects annually. Funds to support this research are generated primarily through outside sponsored research projects with a small but very important percentage coming from State general revenue funds.**

Utah

Utah has a strong high-technology manufacturing base to build on, particularly in microelectronics, robotics, and computer graphics. Utah firms also conduct advanced research in biomedical and aerospace technologies. State officials report that Utah has had the fifth highest growth rate in high-technology jobs in the Nation over the past 5 years.

The State government cooperates closely with the private sector through the Office of Industrial Development. The University of Utah also has several initiatives to promote high-technology innovation, including a nonprofit Research Institute and an Industrial Research Park where university and industry cooperate on R&D projects. Private sector programs include the Utah Innovation Center in Salt Lake City, which assists small- and medium-sized firms in product and process innovation.

Programs

General industrial development

Office **of Economic Development**

Office of Economic Development

Ms. Evelyn Lee
Director
Economic Development
200 South Maine, Suite 620
Salt Lake City, UT 84101
(801) 533-5325

Date of establishment: 1968
Annual State finding (millions): $0.85

Program type:

General industrial development.

Program services:

State resources promotion.
Industrial revenue bonds.

Description:

Utah has had an ongoing program to attract high-technology firms and to nurture the growth of existing high-technology firms since 1975.

Over one-third of the division budget is targeted to high-technology industries such as biomedical and bioengineering, computer and electronics, and pharmaceuticals and medical instruments. The office helps new and expanding high-technology industry in locating plant operations; provides information on area marketing, wages, and education; provides training; and will assist in locating capital.

The office works closely with the University of Utah Research Park, the Utah Innovation Center, and the Governor's Council on Science and Technology in attracting and retaining new industry.

The State reports a good and rapidly growing technological base and an educated labor force.

Vermont

The Governor supports higher education as a means of strengthening the State's economy and preparing the way for high-technology industrial development in the future. The State also has a number of general loan programs for businesses, several of which are reported to be more liberal with high-technology industries given their special capital needs.

Programs

General industrial development

Vermont Industrial Development Authority

Capital provision assistance

Vermont **Industrial Development Authority**

Vermont Industrial Development Authority

Mr. Albert **Coffrin**
Manager
Industrial Development Authority
109 State St.
Montpelier, VT 05602
(802) 828-2384

Date of establishment: 1972
Annual State funding (millions): $1.1

Program type:

Capital provision assistance.
General industrial development.

Program services:

Loans.

Long-term, low-interest loans.
Subordinated loans.
Industrial revenue bonds.

Description:

This program, currently being implemented, has a "set-aside" for high-technology business provided in conjunction with the State Pension Fund. The initial investments for the pension fund as a venture capital source will likely take place with other nongovernment institutional venture capitalists in a private company that would make direct equity purchases.

Virginia

In 1982, the Governor appointed a Task Force on Science and Technology to assess the current state of technological development within the Commonwealth and to prepare recommendations for the Governor and General Assembly. The Task Force, which consists of 36 members drawn primarily from the business and academic communities, will address such issues as education, finance, and State intervention.

The State government feels strongly that existing industry should not subsidize new industry, so there are no targeted loans or special financing for new and expanding industry. However, the State has a good business climate and an excellent higher education system, as well as growing high-technology concentrations in the Norfolk and Charlottesville areas and in the suburbs of Washington, D.C. The State provides labor training through the community college system and has a good supply of technically trained personnel. Its banks are fairly conservative, so venture capital is hard to find inside the State, a situation the Task Force is expected to address.

Programs

High-technology development

Governor's Task Force on Science and Technology
Science, Engineering, and Technology Advisory Service

General industrial development

Department of Industrial Development

Department of Industrial Development

Mr. Hugh Keogh
Assistant Director
Department of Industrial Development
100 Washington Bldg.
Richmond, VA 23219
(804) 786-3791

Date of establishment: 1%2
Annual State funding (millions): $4.2

Program type:

General industrial development.

Program services:

State resources promotion (infrastructure).
Labor assistance.
Information dissemination.
Market development assistance.
Industrial revenue bonds.

Description:

Although there are no special tax incentives for new or expanding industry, the State reports a low business tax in the State, with strong support for business. In addition, the State boasts a good overall location, good access to transportation, and an excellent higher education sector. The State is currently exploring ways to be more responsive to the high-technology sector through a Governor's task force which will report in 1983.

Governor's Task Force on Science and Technology

Mr. Scott Eubanks
Director
Department of Industrial Development
100 Washington Bldg.
Richmond, VA 23219
(804) 786-3791

Date of establishment: 1982
Annual State funding (millions): N/A

Program type:

High-technology development.

Program services:

Task force.

Description:

This Task Force will report to the Governor in June 1983, on Virginia's science and engineering community on how to mobilize talent in support of high-technology industry. The Task Force is currently working in six committees preparing reports on different aspects of the State's economic development.

Science, Engineering and Technology Advisory Service

Mr. Robert J. Griffis
Director
Department of Planning and Budget
P.O. Box 1422
Richmond, VA 23211
(804) 786-8303

Date of establishment: 1982
Annual State funding (millions): $0.01

Program type:

High-technology development.

Program services:

Task force.

Description:

This office acts as the technical consultant to the Task Force on Science and Technology. In addition, it helps new and expanding industries develop products, and helps businesses develop contacts with university technicians. The office is helping coordinate the efforts of university research and the development of high-technology industry in the State.

Washington

The Governor's Committee on High-Technology Training and Advancement, established in 1982, will examine engineering education, tax and land use policy, development of high-technology centers, specialized training programs, and the attraction of high-quality teachers. Its mission is to identify programs that encourage innovation and to recommend legislation that will promote high-technology growth.

Other State initiatives include the Washington Research Foundation, funded primarily by private sector sources, which was set up to coordinate university R&D activities with the needs of industry. The University of Washington is also working with local corporations and businessmen to promote innovation and entrepreneurship in the Seattle area.

Programs

High-technology development

Washington Research Foundation

High-technology education

Governor's High-Technology Training and Advancement Committee

Labor/technical assistance

Washington Research Foundation

Governor's High Technology Training and Advancement Committee

Mr. Alan Hager
Committee Coordinator
Department of Commerce and Economic Development
101 General Administration Bldg.
Olympia, WA 98504
(206) 753-3065

Date of establishment: 1981
Annual State funding (millions): N/A

Program type:

High-technology education.

Program services:

Task force.

Description:

The **mission of this Committee was to develop policy recommendations aimed at developing high-technology industry in the State of Washington. Specific issue areas considered include: engineering education, tax and land-use policy, development of high-technology centers around State universities, developing specialized training programs, and attracting and maintaining high-quality personnel to the State.**

Washington Research Foundation

Mr. Hunter Simpson
Staff Director
Governor's High-Technology Transfer Task Force
State Capitol
Olympia, WA 98504
(206) 000-0000

Date of establishment: 1981
Annual State funding (millions): -O-

Program type:

High-technology development.
Labor/technical assistance.

Program services:

Task force.
Links industry with university resources.

Description:

The Foundation, funded primarily by private industry sources, resulted from the Governor's High Technology Transfer Task Force. The purpose of the Foundation is to finance applied research and development on new technology-based products.

West Virginia

West **Virginia is looking for ways to diversify its industrial base by encouraging product and process innovations in the manufacturing sector. The State government also works closely with local development authorities to plan and develop industrial parks, and to attract expanding industry. Targeted industries include robotics, electronics, chemicals, and energy.**

The University of West Virginia established a Center for Entrepreneurial Studies and Development in 1981 to

bring the resources of university faculty and students to the direct support of West Virginia businesses, particularly small and developing enterprises.

Programs

General industrial development

Governor's Office of Economic and Community Development

Governor's Office of Economic and Community Development

Mr. Douglas Scaff
Director of Economic Development
Governor's Office of Economic and Community Development
Capital Complex
Charleston, WV 25305
(304) 348-2234

Date of establishment: 1977
Annual State funding (millions): $22 bond

Program type:

General industrial development.
Labor/technical assistance.

Program services:

Long-term, low-interest loans.
Industrial revenue bonds.
Training provided by the State.
Site location.
Market development assistance.
Information dissemination.

Description:

This agency is the economic development arm of the Governor's office, providing new and expanding industry with: financial assistance and packaging, labor studies, marketing research, facility location, and training packages. The organization serves as interface for industry with other State agencies.

A close relationship exists with local development authorities in bringing plans for local industrial parks to fruition. Targetted industries include: robotics, electronics, chemicals, high energy users, as well as supporting industries.

This agency works closely with the West Virginia Development Authority (WVDA). WVDA was set up **by** legislative mandate, and has funds appropriated by the State, but works independently of State control. WVDA provided low-interest loans (4 percent) to qualified high technology, (as well as any industry qualifying) to fund up to) 50 percent of new and expanding projects.

Wisconsin

Wisconsin's aggressive program to attract high-technology industry is distinguished by the efforts of the private sector and public-private coalitions. The State is actively marketing its resources as a high-technology center, and government industrial development efforts include customized labor training, licensing and finance assistance, and tax credits for R&D and job creation. The legislature will soon be considering proposals to increase technical training, tax incentives, and R&D tax credits.

Two private sector groups working closely with the State government are Competitive Wisconsin and Wisconsin for Research. Both are nonprofit groups representing business, education, and government, Another group, the Wisconsin Alumni Research Foundation of the University of Wisconsin, holds patents on alumni inventions; income received as a result of licensing agreements is channeled into further university research.

At the community level, the State works closely with the Greater Milwaukee Committee and the Milwaukee Chamber of Commerce to develop high technology in that city. In addition, the Heritage Bank in Milwaukee, a privately chartered bank, has committed $50 million to the development of high-technology industry in the city.

Programs

General industrial development

Business Development Services
Wisconsin Department of Development

Business Development Services

Mr. Fred Pearce
Director
Business Development Services
P.O. Box 7970
Madison, WI 53707
(608) 266-0165

Date of establishment: 1960
Annual State finding (millions): N/A

Program type:

General industrial development.

Program services:

Information dissemination.
State resources promotion (infrastructure).
Links industry with university resources.
Market development assistance.
Licensing assistance.

Description:

This office is responsible for a significant amount of the State effort in attracting targeted high-technology industry by providing services they need. These services include information about State resources, and helping business use them. Although established as a general industrial development effort, this office is now targeting advanced technology industries for special services.

Wisconsin Department of Development

Ms. Kay Plantes
Division Administrator
Wisconsin Department of Development
P.O. Box 7970
Madison, WI 53707
(608) 266-1018

Date of establishment: 1980
Annual State funding (millions): N/A

Program type:

General industrial development.

Program services:

Link industry with university resources.
Tax-favorable business climate.

Description:

This office is charged with guiding coordinated and economically efficient development of the State's general industrial development. Recently, however, the State has recognized the importance of high-technology development, and is pursuing a number of strategies to encourage such development: through university-industry ties, research and development tax credits, matching State funds for university-industry consortia, and other tax incentives to draw equity and/or venture capital investments into the State.

Wyoming

High-technology industry is part of Wyoming's agenda for economic development, but thus far the State legislature has taken a cautious approach. There is valid concern about the secondary effects of development, particularly for the environment, and there is a natural constraint in the lack of water. In addition, there is high unemployment in the State but the existing work force is not trained in high-technology skill areas.

The Wyoming Industrial Development Corp., established by the legislature in 1967, is authorized to provide financing to Wyoming businesses as venture capital or for expansion. Although it receives no State funding at this time, it works closely with the Wyoming Office of Economic Development. The State does boast the lowest tax structure in the Nation, and there is a concentrated effort at the community level to attract new industry. This is usually traditional manufacturing industry, but it is hoped that it will provide a foundation for future high-technology growth.

Programs

General industrial development

Wyoming Economic and Planning Development Commission

Wyoming Economic and Planning Development Commission

Mr. John Logan
Chief, Industrial Division
Economic and Planning Development Commission
Barrett Bldg., 3rd Floor
Cheyenne, WY 82002
(307) 777-7285

Date of establishment: 1969
Annual State funding (millions): $1.14

Program type:

General industrial development.

Program services:

Tax—favorable business climate,
Information dissemination.
State resources promotion.

Description:

This office is responsible for providing technical assistance to existing industries in the State considering expansion, and to outside firms for possible location to Wyoming. The State labor force is predominately skilled to semiskilled, with some shortages in professional and management areas. State infrastructure dictates that concentration is placed on smaller manufacturing firms that will hire up to 500 employees. The State Industrial Division and those active local economic development councils work together to attract industry and diversify the economic base, emphasizing smaller high-technology firms.

The University of Wyoming has expanded its research and development centers to include state-of-the-art skills and machinery in high-technology areas. Training programs are also being established throughout the State through efforts of the Division of Manpower Planning.