

***State of New York
Office of the State Comptroller
Division of Management Audit
and State Financial Services***

EMPIRE STATE DEVELOPMENT

**NEW YORK STATE SCIENCE AND
TECHNOLOGY FOUNDATION
PROGRAM OVERSIGHT AND
GOVERNANCE**

REPORT 99-S-3



H. Carl McCall

Comptroller



State of New York Office of the State Comptroller

Division of Management Audit and State Financial Services

Report 99-S-3

Mr. Charles A. Gargano
Chairman
Empire State Development
New York State Science and Technology Foundation
30 South Pearl Street
Albany, NY 12245

Dear Mr. Gargano:

The following is a report on our audit of the New York State Science and Technology Foundation's program oversight and governance.

This audit was performed pursuant to the State Comptroller's authority as set forth in Article V, Section 1 of the State Constitution and Article II, Section 8 of the State Finance Law. We list major contributors to this report in Appendix A.

*Office of the State Comptroller
Division of Management Audit
and State Financial Services*

December 31, 1999

Executive Summary

Empire State Development New York State Science and Technology Foundation Program Oversight and Governance

Scope of Audit

The New York State Science and Technology Foundation (Foundation) is a State-based public corporation and is part of the State's economic development strategy to create a more pro-business environment in New York. Through the Technology Development Organization Program (TDO program), the Manufacturing Extension Partnership Program (MEP program), and the Centers for Advanced Technology Program (CAT program), the Foundation supports public-private partnerships leading to the discovery of new technologies which lead to formation of new companies and jobs for New Yorkers.

The TDO and MEP are similar programs that provide assistance to new and existing businesses. The TDO program is State-funded and provides assistance to companies in the areas of entrepreneurship, technology commercialization, product development, business incubator facility management, and technology transfer services. The MEP program is a Federally-funded technical assistance program that seeks to improve the productivity and competitiveness of the State's nearly 26,000 small and mid-sized manufacturing companies. To carry out the TDO and MEP programs, the Foundation contracts with regional Technology Development Organizations (regional TDOs). The regional TDOs are not-for-profit businesses that provide manufacturing extension (technology, processing and manufacturing improvements) and technical services to individual companies (client companies) and industry groups in their area of the State to help them become more effective, more competitive and more successful. The ten regional TDOs statewide receive approximately \$2.3 million annually in State funding and \$8.7 million in Federal funding.

The CAT program was created to leverage the financial, intellectual and program resources of academic universities in pursuit of substantial increases in revenue, sales, and employment for New York State companies. The CAT providers (CATs) are cooperative research and development centers specifically targeted to work with New York State industry. Participating companies receive benefits such as product and process improvement, lower operating costs, improved quality, and higher yields. The Foundation selects the CATs through statewide competition in technology areas that are important to the State's existing and future industrial strengths. Most of the 14 CATs receive approximately \$1 million annually in State funding.

Our audit addressed the following question about the Foundation's program oversight and governance for the period January 1, 1997 through June 30, 1999: Does the Foundation effectively oversee and govern its programs through its performance-based contracts?

Audit Observations and Conclusions

We found that the Foundation has implemented program monitoring and evaluation systems that enable it to effectively oversee and govern the TDO, MEP and CAT programs. For example, the Foundation has ensured that measurable performance targets have been set for the regional TDOs and each of the CATs. Additionally, comprehensive reporting systems are in place to enable the Foundation to track performance against the targets. We identified several areas where the Foundation could take additional steps to further strengthen its monitoring and evaluation systems.

The most important source of performance information for the TDO and MEP programs are quarterly reports that track actual performance against economic impact, service delivery and internal performance targets. We found that the quarterly reports are submitted by the regional TDOs, as required, but Foundation staff do not verify the reported information during their site visits. We believe that verification of the reported data on a sample basis would confirm and enhance the reliability of the data. (See pp. 5-9)

Annual reports submitted by the CATs are used by the Foundation as the primary basis for evaluating their performance. However, we found that the methods used by the CATs to determine economic impact vary greatly. For example, some CATs use information gathered directly from the client company, such as survey documents prepared by client companies. In other cases, CAT staff prepare estimates of the impacts without obtaining information from the client companies. Some client companies refuse to submit documentation to the CATs because they are concerned with the confidentiality of company data. Foundation officials report they review the economic impacts claimed by the CATs; however, we believe the Foundation could take additional steps to improve the value of the CAT program performance measurement data by: requiring all reported economic impact figures to be supported by documentation from the companies claiming the economic impact; establishing formal standards for the quality of documentation which will be considered acceptable; ensuring that estimates of program performance are identified as such; and addressing how the Foundation and CATs can assure client companies that the confidentiality of data will be maintained. (See pp. 11-15)

Comments of Empire State Development Officials

Empire State Development officials agreed with our recommendations and are taking steps to implement them.

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Funding of Regional Technology Development Organizations

Exhibit B

Funding of Centers for Advanced Technology

Appendix A

Major Contributors to This Report

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Comments of Empire State Development Officials

Introduction

Background

The Department of Economic Development (DED) was created to attract business to New York State and to help the State retain the business it already has, provide assistance in skills training and productivity improvement, promote tourism and international trade, and encourage the development of businesses owned by minorities and women. According to Chapter 839 of the Laws of 1987 (the Omnibus Economic Development Act), DED is responsible for the overall coordination of New York State's economic development programs, which are implemented by the Urban Development Corporation, the Job Development Authority, and the Science and Technology Foundation (Foundation). In 1995, the Commissioner of DED (Commissioner) reorganized and streamlined the State's economic development agencies, with the DED assuming responsibility for administering Foundation programs and the other programs being administered by the Empire State Development Corporation (ESDC). DED and ESDC are distinct entities, but both are headed by the Commissioner, and they share senior managers who oversee administration, policy formulation and research, as well as regional office operations. For marketing purposes, both entities operate under an umbrella organization named Empire State Development (ESD).

Formed in 1963, the Foundation's mission is to create and administer programs that promote scientific and technical education, industrially-relevant research and development, manufacturing modernization, and the capitalization of high-tech companies. Through the Technology Development Organization Program (TDO program), the Manufacturing Extension Partnership Program (MEP program), and the Centers for Advanced Technology Program (CAT program), the Foundation supports public-private partnerships leading to the discovery of new technologies which lead to formation of new companies and new jobs for New Yorkers.

The TDO and MEP are similar programs that provide assistance to new and existing businesses. The TDO program is State-funded and provides assistance to companies in the areas of entrepreneurship, technology commercialization, product development, business incubator facility management, and technology transfer services. The MEP program is a Federally-funded technical assistance program that seeks to improve the productivity and competitiveness of the State's nearly 26,000 small and mid-sized manufacturing companies. The National Institute of Standards and Technology (NIST) of the United States Department of Commerce administers the MEP program through the Foundation. The Foundation contracts with Technology Development Organization providers (regional

TDOs) to carry out both the TDO and MEP programs. The regional TDOs are not-for-profit businesses that provide manufacturing extension (technology, processing and manufacturing improvements) and technical services to individual companies (client companies) and industry groups in their area of the State to help them become more effective, more competitive and more successful.

For fiscal year 1998-99, there were ten regional TDOs statewide receiving approximately \$2.3 million in State funding (TDO program) and \$8.7 million in Federal funding (MEP program), as shown in Exhibit A. Total government funding varies by region from a low of \$463,000 in the Mohawk Valley region of the State to a high of \$3,161,000 in New York City. In addition to government support, the providers receive local financial and in-kind support, as well as earn revenue from client companies through membership fees and fees for specific projects.

The CAT program was created to leverage the financial, intellectual and program resources of academic universities in pursuit of substantial increases in revenue, sales, and employment for the State's companies. Industry-university collaboration can lead to business growth through a variety of means, including new start-up companies, new product introductions, and attraction of new capital. Participating companies receive benefits such as product and process improvement, lower operating costs, improved quality, and higher yields. The CAT providers (CATs) are cooperative research and development centers which are affiliated with universities and which are specifically targeted at working with New York State industry. The Foundation selects, evaluates and provides partial financial support for the CATs. The CATs must also receive matching funding from other sources, such as the university affiliate and client companies.

The Foundation selects the CATs through statewide competition in technology areas that are important to the State's existing and future industrial strengths. Each CAT concentrates on a specific area of advanced technology which has potential for economic growth or which can enhance the competitiveness and profitability of the State's businesses. During 1998-99 there were 14 CATs operating across the State focusing on such industry sectors as information systems, telecommunications, digital multimedia, optics and imaging, microelectronics, biotechnology, robotics, manufacturing, and materials. Most of the CATs receive State funding of approximately \$1 million annually, for a total of approximately \$12.8 million, as shown in Exhibit B.

According to the Foundation, the CATs are evaluated based on their contribution to the growth of the State's economy. CATs are designated

for 10-year terms, and must re-compete for another term. Since their inception in 1982, the CATs have reported the following: working with over 500 companies; generating more than \$4.75 billion in new economic activity; creating or retaining over 4,500 jobs; and leveraging an additional \$434 million from corporate and other sources as a result of the State's \$119 million investment. More recently, for fiscal year 1997-98, the Foundation credited the CATs with the following: 687 jobs created; 2,219 jobs retained; \$99 million in new revenues and cost savings relating to company operations; and \$334 million in total economic impact as a result of the State's \$13 million investment.

The Foundation is a State-based, public corporation that is governed by a 13-member board of directors comprised of both public and private-sector officials. ESD's Chairman also serves as chairman of the Foundation. For State fiscal year 1998-99, the Foundation was appropriated almost \$30 million.

Audit Scope, Objective and Methodology

We audited the Foundation's program oversight and governance for the period January 1, 1997 through June 30, 1999. The objective of our program-results audit was to assess the Foundation's oversight and governance of its programs through its performance-based contracts by evaluating the performance criteria established, the monitoring systems in place, and the reporting process. To accomplish this objective, we interviewed Foundation officials and regional TDO and CAT staff, reviewed applicable laws, rules and regulations, reviewed Foundation policies and procedures, and reviewed performance-based contracts. We also reviewed monthly, quarterly and annual performance and outcome reports for all 10 regional TDOs and all 13 CATs and visited five regional TDOs and five CATs, as noted on Exhibits A and B.

The purpose of these visits was to discuss with regional TDO and CAT officials how they set performance targets and measure the economic impacts of their programs, and to review documentation to support reported economic impact figures. We selected the regional TDOs and CATs to be visited using a balanced approach related to performance. For the regional TDOs, we analyzed the performance of each regional TDO against the targets they had set for 1998. Based on our analysis of their reported performance, we selected five regional TDOs. For the CATs, we relied upon the Foundation's most recent annual "report card" evaluation (1997-98 fiscal year). The evaluation graded each CAT from A to F. We selected one CAT from each grade level -- A, B, C, D, and F.

We conducted our audit in accordance with generally accepted government auditing standards. Such standards require that we plan and perform our audit to adequately assess those operations which are included within the audit scope. Further, these standards require that we understand the Foundation's internal control structure and compliance with those laws, rules and regulations that are relevant to the operations included in our audit scope. An audit includes examining, on a test basis, evidence supporting transactions recorded in the accounting and operating records and applying such other auditing procedures as we consider necessary in the circumstances. An audit also includes assessing the estimates, judgments, and decisions made by management. We believe that our audit provides a reasonable basis for our findings, conclusions and recommendations.

We use a risk-based approach to select activities for audit. We therefore focus our audit efforts on those activities we have identified through a preliminary survey as having the greatest probability for needing improvement. Consequently, by design, we use finite audit resources to identify where and how improvements can be made. We devote little audit effort to reviewing operations that may be relatively efficient or effective. As a result, we prepare our audit reports on an "exception basis." This report, therefore, highlights those areas needing improvement and may not address activities that may be functioning properly.

Response of ESD Officials to Audit

A draft copy of this report was provided to ESD officials for their review and comment. Their comments have been considered in preparing this report and are included as Appendix B.

Within 90 days after final release of this report, as required by Section 170 of the Executive Law, the Chairman of Empire State Development shall report to the Governor, the State Comptroller, and the leaders of the Legislature and fiscal committees, advising what steps they took to implement the recommendations contained herein, and where recommendations were not implemented, the reasons therefor.

TDO and MEP Programs

According to the Public Authorities Law (Law), the Foundation is responsible for overseeing and monitoring the TDO program to ensure that it achieves its objectives. The Foundation also oversees the MEP program. The Law further specifies program reporting and evaluation requirements for the TDO program. The Law specifies that the Foundation's monitoring of the TDO program includes annual evaluations of the regional TDOs and at least semi-annual reporting by the TDOs to the Foundation on program activities and accomplishments. In addition, the Law requires that the Foundation submit an annual report to the Governor, Senate, and Assembly detailing the activities of each regional TDO during the reporting year. The NIST has established the monitoring requirements for the Federally-funded MEP program. Because the Foundation automatically renews the regional TDO contracts each year, it is particularly important that it have an effective program monitoring and evaluation system to hold the regional TDOs accountable for results. We noted that the Foundation has begun to implement an outcome measurement approach in assessing regional TDO performance. We also found that the Foundation's monitoring system is adequate, but it could be further improved by verifying reported outcomes on a test basis. The Foundation also needs to work with the regional TDOs to address their concerns that would lead to improvements in the reporting process.

Outcome Measurement

The Foundation receives information on the regional TDOs performance from a number of external sources, which it uses as part of its monitoring system. For example, the Foundation receives copies of the quarterly activity reports that the regional TDOs are required to submit to NIST. These reports include both MEP and TDO programs and contain activities in categories such as technical assists, assessments, training, and total manufacturers served. The Foundation also receives economic impact and client satisfaction data from NIST which is confirmed through client surveys performed by the U.S. Census Bureau. These external evaluations and surveys provide the Foundation with independent assessments of the regional TDOs' performance. The Foundation also receives performance data from consultants. For example, the Foundation contracted with a consultant to evaluate the MEP program in New York. The consultant's 1996 report included information on indicators such as client satisfaction, manufacturing performance, and financial impact. In addition, the Foundation receives annual financial audits that are required in the contract with each regional TDO. These audits can provide the Foundation with important information on the fiscal soundness of the regional TDOs.

Despite the external data available on the regional TDOs' performance, a 1997 NIST report identified weaknesses in several areas, such as economic impact measurement, and recommended the establishment of key performance requirements and measures to track progress. In response to the NIST report, the Foundation implemented an internal reporting requirement to complement the external sources. During the first year (1997-98), the quarterly report format (Form O) required the regional TDOs to measure progress against 16 economic impact, service delivery and internal performance targets for the MEP program only. During the second year (1998-99), the Foundation expanded Form O to include TDO program activity and expanded the number of performance measures to 25.

The measures included on Form O include economic impacts such as jobs created and sales growth, service delivery indicators such as customer satisfaction ratings, and internal indicators including percent of board representatives who are from high technology or manufacturing companies. Additional measures specific to TDO programs included business starts, research and development/venture capital funding, and percent of population served. A Foundation official told us that Form O is the principal means by which the Foundation fosters continuous improvement among the regional TDOs.

During the first year, we found that the regional TDOs submitted all 40 of the required quarterly reports and that most regional TDOs had no difficulty setting targets for the 12 service and internal performance measures because they had already been tracking these activities in the past. However, we noted that the regional TDOs generally did not include economic impact targets because they did not have previous experience doing so. Only three regional TDOs set targets for all four economic impact measures; another two did not set targets for any economic impact measures. However, during the second year, we noted an improvement in the regional TDOs' setting of these targets. Most of the regional TDOs established targets for all 25 indicators in the first quarter report, and only two regional TDOs continued to have difficulty. One regional TDO did not set targets for 24 of the 25 measures, and the other did not set targets for ten measures. Officials at the former regional TDO stated they were challenged by the need to include goals from work plans of different contract years (State TDO contracts expire in June, while Federal MEP contracts expire in September). At the latter regional TDO, the individual responsible for reporting told us that the responsibilities were new and she had not received the required training until after the first quarterly report.

We also compared the regional TDOs' reported performance levels to the targets that they set. During the first year, we found that the regional TDOs missed many of the targets that were set, some by substantial margins. In total, the ten regional TDOs set targets for 134 of 160 possible measures, and met or exceeded less than half of them. Five of the ten regional TDOs had at least one economic impact or internal indicator for which they failed to achieve at least 60 percent of the target. For example, one regional TDO set a target to retain 30 jobs and reported 4, while another set a target for sales growth of \$10,000,000 and reported \$50,000.

We questioned regional TDO officials about some instances where targets were missed by large margins and were told that it was the result of over-aggressive or inexperienced target setting. Foundation officials also told us that the regional TDOs had little data available to assist them in the initial goal-setting process, and that they believe that target-setting should improve over time as historical performance data becomes available. The Foundation directed the regional TDOs to set goals even though they lacked historical data in order to begin to "change the culture" from measuring program activity to measuring outcomes.

We reviewed the targets set during the second year and found that the providers generally set their second year targets within 100 to 200 percent of the first year's actual results. We believe this shows the second-year targets allowed for intended improvement, but were much more realistic. Officials at three of the five regional TDOs that we visited told us that they try to set goals that are attainable with effort so as to improve productivity.

Monitoring System

We discussed Form O reporting issues with officials at the regional TDOs we visited. The officials told us of a number of additional difficulties with the first year of the report. Several TDOs told us that the economic impact measures, such as job creation and retention, are not meaningful for services provided to emerging businesses or technology development because the business starts typically do not create significant jobs initially. Further, they said the immediate effect of adopting new technology could actually be job loss due to enhanced operating efficiency. However, they were not able to identify alternative measures that would be more useful to them. Officials at most regional TDOs we visited also told us that the reporting (internal as well as external) was burdensome, particularly at the smaller regional TDOs with less resources.

Some Form O measures are based on data provided by NIST from Census Bureau surveys. However, the regional TDOs we visited also used local

database information, such as managerial, personnel and financial accounting systems to complete Form O. Although Foundation staff make field visits to the regional TDOs, they do not verify Form O information reported to supporting documentation. Foundation officials told us that they do not have sufficient resources to perform this verification function. While we did not analyze the adequacy of staff resources available, we believe that verification of Form O data from local sources on a sample basis during the site visits would enhance the reliability of the data.

TDO projects are typically completed within several weeks. Despite the relatively quick completion of these projects, the Census Bureau survey of the project results lag behind the project completion by at least nine months, thereby hindering the regional TDOs' ability to report on Form O, all impacts achieved towards their targets. Also, some of the economic impact results reported on Form O may relate to the prior year, rather than the current reporting period. Officials at three regional TDOs were also concerned that the Census Bureau surveys are not always directed at client company officials in the appropriate position to be knowledgeable of the impact. Therefore, economic impacts may be inaccurate or not provided at all in some cases.

In an effort to improve reporting, the Foundation has conducted two reporting seminars to communicate changes and to train regional TDO reporting staff. In addition, Foundation officials critique report quality, as well as reported performance and communicate this feedback to the regional TDOs. However, the concerns raised by the regional TDO officials that we spoke to suggest that the Foundation may need to do additional outreach to the regional TDOs in an attempt to address their concerns.

Despite their difficulties with, and criticisms of the reporting process, the regional TDOs recognized that the investing governments require such information, and that the reporting process has had beneficial effects. For example, one regional TDO uses the economic impact measures as key indicators in its monthly internal reporting to staff and the local board of directors. Another regional TDO official told us that the requirement to report impacts on Form O forced the regional TDO to refocus its operating philosophy and concentrate on being a results-oriented business. Another credited the close monitoring by the Foundation with helping the regional TDO to reorganize and improve its financial stability and performance.

Recommendation

1. Work to further improve the reporting of regional TDO performance by:
 - verifying, on a sample basis, documentation supporting Form O data from local sources during visits to regional TDOs; and
 - obtaining feedback from the TDOs on improving the current reporting process.

(Foundation officials concur with the recommendation.)

Centers for Advanced Technology Program

According to the Law, the Foundation is responsible for overseeing and monitoring the CAT program to ensure it achieves its objectives. The Law also specifies program evaluation requirements for the CAT program. It states that the Foundation will evaluate each CAT's operations using methods such as site visits, reporting of specified information and peer-review evaluations using experts in the field of technology in which the CAT was designated. The CATs should be notified of the results of the evaluation, and the Foundation should work with them to remedy any deficiencies. Each CAT is required to report on its activities to the Foundation in a manner and according to the schedule established by the Foundation. The Law also requires the Foundation to submit a report to the Governor and the Legislature detailing the activities of each CAT during each reporting year.

Similar to the TDO program, the Foundation is in the midst of implementing changes to improve CAT performance measurement, and we acknowledge their efforts. We also encourage the Foundation to make further improvements in several areas. For example, the Foundation needs to work with the CATs to ensure that client companies submit evidence of their impact to the CAT. The Foundation also needs to work with the CATs to address the issue of company concern over the confidentiality of their business information and how to maintain that confidentiality.

Monitoring Efforts

We found that the Foundation implemented a monitoring system in compliance with the Law. The Foundation requires each CAT to submit quarterly progress and financial reports. We tested the CATs' reporting for the four quarters ended March 1999. We found that all required reports were submitted by the CATs on a timely basis and contained the required information. The Foundation also requires the CATs to submit an annual report which includes information addressing each of four criteria:

- Impact - Economic impact on New York companies in the form of jobs created and retained, revenue increases, and cost savings as a result of the CAT's efforts.
- Opportunity - The economic impact opportunities the CAT is pursuing, as indicated by: the vision articulated by the CAT; the quantitative targets set by the CAT; the customer base of New York companies working with the CAT; the balance of risk in the

CAT's portfolio; and the concrete actions taken by the CAT in pursuit of the identified opportunities.

- Leverage - The ability to leverage and multiply the financial, intellectual and programmatic resources available to the CAT, including financial support from the host university, and partnering with other organizations within and outside the host university.
- Leadership - An entrepreneurial CAT director articulating and advancing a bold vision for the CAT and a management team of sufficient depth and breadth to provide: scientific leadership; development and cultivation of relationships with faculty; development and cultivation of relationships with New York companies; and internal administration.

Foundation officials told us that they do not automatically accept the economic impacts reported by the CATs on the annual report. At least two Foundation staff review and evaluate the plausibility and reasonableness of each claim of economic impact. The staff review the claims for evidence of the nature of the CAT's work with the company, and the basis for calculation of the impact. According to Foundation officials, the review process for 1997-98 credited the CATs with \$334 million of the originally reported \$689 million in impact.

The annual reports submitted by the CATs are used by the Foundation as the primary basis for evaluating their performance. In 1997, the Foundation changed to a "report card" approach to summarize its evaluation of the CATs' annual performance, assigning letter grades to each of the four criteria covered in the annual report.

In response to the annual evaluations, the CATs are required to submit an "action plan" with their annual report. The action plan maps out what the CAT plans to do in the next contract year to improve any deficiencies noted in the prior year. The Foundation allows the CATs discretion to choose the activities that will enable them to improve their performance.

Recently, the Foundation began implementing an outcome measurement approach in the CAT program. This approach requires each CAT to choose activities based on quantified economic impact targets, identify milestones for the projects, and focus accountability on the economic results of their client companies. According to a Foundation official, this is a change from the past when the primary emphasis was on measuring program activity. Foundation officials told us that it will take time for the CATs and their host universities to adapt to and implement an outcome measurement approach.

We identified a number of factors that make it difficult to measure and compare results in the CAT program. For example, Foundation officials told us that there are no standardized methods for measuring economic impact from university research. Also, the long-term nature of many of the CATs' projects do not lend themselves to short-term performance measurement and evaluation. The different ages of the CATs and the variety of technological areas of concentration also add to the difficulty in measuring results on both an individual basis, as well as among other CATs/technological areas. Also, the CATs have had difficulty obtaining information on program performance from some client companies, as discussed in the next section of our report.

Reporting Systems

During our site visits, we reviewed the methods that the CATs use to collect and calculate economic impact data that they use in their annual reports. Each CAT claims to use a conservative approach to reporting economic impact. However, we found that the methods used by the CATs to determine economic impact vary greatly. For example, some CATs use information gathered directly from the client company, such as survey documents prepared by client companies or letters signed by client company officials. In other cases, the CAT staff prepare estimates of the impacts without obtaining information from the client companies to support the claims. We also found variations in the amount of documentation received. Of the five CATs we visited, one did not have any documentation and two had only partial documentation to support their most recent annual report.

In April 1999, the Foundation revised its reporting guidelines for the annual report to direct the CATs to submit any documentation received from the companies to support the economic impact figures that are reported. Further, Foundation officials stated that they intend to require supporting documentation for all reported impacts in the near future. We believe that requiring support for all reported economic impacts is a good control to help ensure that the reported figures are reliable. However, we found that some CATs may not be able to comply with this guideline because some companies refuse to submit economic impact documentation.

The officials at the CATs we visited expressed significant concerns regarding difficulties they face in obtaining economic impact data from their client companies. CAT officials told us that some companies are concerned with the confidentiality of their financial information and how it will be used by the State. When companies do not submit economic impact data, the CAT managers are forced to estimate the impact based on their knowledge of the client. We understand that client companies will naturally want to keep business data private, particularly in highly

competitive fields. However, the desires of the companies need to be balanced with the Foundation's responsibility to measure program results. As such, the Foundation needs to address this issue so that the CATs will be able to provide documentation of the economic impacts when this requirement goes into effect. Specifically, the Foundation needs to address issues such as:

- what type of information do client companies consider confidential; and
- if some information is considered confidential, how can the Foundation and CATs maintain that confidentiality and provide assurance of confidentiality to the companies.

Until issues such as these are resolved, the CATs will continue to face resistance from the client companies in providing performance data, making it difficult to obtain an overall measure of each CAT's performance.

We recognize that it will not always be possible to obtain actual impact results and that estimates may be the best available data in some instances. However, when estimated data is used to report on program outcomes, the figures should be disclosed as estimates so that users of the data are not misled. The Foundation acknowledges that reported economic impact results are estimates in some cases, but does not disclose the figures as estimates when using them.

Recommendation

2. Take steps to improve the value of the CAT program performance measurement data by:
- requiring all reported economic impact figures to be supported by documentation from the companies claiming the economic impact;
 - establishing formal standards for the quality of documentation which will be considered acceptable;
 - ensuring that estimates of program performance are identified as such; and
 - addressing what client company information is considered confidential, and how the Foundation and CATs can maintain confidentiality and assure client companies that such confidentiality will be maintained.

(Foundation officials concur with the recommendation.)

Funding of Regional Technology Development Organizations (TDOs)				
Region	Regional TDO Name	1998-99 Funding		
		Federal (MEP)	State (TDO)	Total
New York City	<i>Industrial Technology Assistance Corporation</i>	\$2,694,000	\$467,000	\$3,161,000
Long Island	<i>Long Island Forum for Technology</i>	\$2,210,000	\$305,000	\$2,515,000
Western New York	<i>Western New York Technology Development Center*</i>	\$913,000	\$320,000	\$1,688,000
Mid-Hudson Valley	<i>Hudson Valley Technology Development Center*</i>	\$729,000	\$143,000	\$872,000
Finger Lakes	<i>High Technology of Rochester</i>	\$455,000	\$200,000	\$655,000
Southern Tier	<i>Alliance for Manufacturing and Technology</i>	\$456,000	\$142,000	\$598,000
Central New York	<i>Central New York Technology Development Organization*</i>	\$359,000	\$180,000	\$539,000
Capital Region	<i>Center for Economic Growth*</i>	\$359,000	\$176,000	\$535,000
North Country	<i>Council for International Trade, Technology, Education, and Communication*</i>	\$260,000	\$225,000	\$485,000
Mohawk Valley	<i>Mohawk Valley Applied Technology Corporation</i>	\$309,000	\$154,000	\$463,000
Total		\$8,744,000	\$2,312,000	\$11,056,000

* We made field visits to these five regional TDOs.

Funding of Centers for Advanced Technology (CATs)		
University Affiliate	CAT Name	1998-99 Funding
University of Rochester	<i>Center for Electronic Imaging Systems</i>	\$970,000
SUNY Binghamton	<i>Integrated Electronics Engineering Center*</i>	\$970,000
Alfred University	<i>Center for Advanced Ceramic Technology</i>	\$970,000
City University of New York	<i>Center for Advanced Technology for Ultrafast Photonic Materials and Applications*</i>	\$970,000
Clarkson University	<i>Center for Advanced Materials Processing</i>	\$970,000
Columbia University	<i>Center for Advanced Technology in Information Management and Medical Informatics</i>	\$970,000
Cornell University	<i>Center for Advanced Technology in Biotechnology</i>	\$970,000
New York University	<i>Center for Digital Multimedia Production, Publishing, and Education</i>	\$970,000
Polytechnic University	<i>Center for Advanced Technology in Telecommunications*</i>	\$970,000
Rensselaer Polytechnic Institute	<i>Center for Automation Technologies*</i>	\$970,000
SUNY Albany	<i>Center for Advanced Thin Film Technology*</i>	\$970,000
SUNY Stony Brook	<i>Center for Advanced Technology in Medical Biotechnology</i>	\$970,000
Syracuse University	<i>Computer Applications & Software Engineering (CASE) Center</i>	\$970,000
SUNY Stony Brook	<i>Center for Advanced Technology in Sensor Systems and Diagnostic Tools</i>	\$200,000
Total		\$12,810,000

* We made field visits to these five CATs.

Major Contributors to This Report

Frank J. Houston
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Stephen Goss
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