



# **BUSINESS INCUBATION: EMERGING TRENDS FOR PROFITABILITY AND ECONOMIC DEVELOPMENT IN THE US, CENTRAL ASIA AND THE MIDDLE EAST**

BY CRISTY S. JOHNSRUD, PHD, RYAN P. THEIS AND MARIA BEZERRA, PHD

A REPORT PREPARED FOR THE  
US DEPARTMENT OF COMMERCE  
TECHNOLOGY ADMINISTRATION,  
OFFICE OF TECHNOLOGY POLICY,  
WASHINGTON, DC, USA



COOPERATIVE AGREEMENT No. 70NANB1H0125 - MAY 2003



# CONTENTS

<b>Foreword</b>	<b>7</b>
<b>Preface</b>	<b>8</b>
<b>Acknowledgments</b>	<b>13</b>
<b>Chapter I. Introduction and Overview</b>	<b>14</b>
<b>Business Incubation as an Economic Development Strategy</b>	<b>16</b>
<b>Business Incubation as an Investment Strategy</b>	<b>18</b>
Accelerator/Incubator Companies	20
Operating companies (including EcoNets and Metacompanies)	20
Other models	20
Information technology CVAs	21
Agriculture, biotechnology, and pharmaceutical CVAs	21
<b>Foreign-Owned and International Incubators in the US</b>	<b>22</b>
Foreign-owned Incubators	23
“International” Incubators	23
<b>Business Incubation in a Global Context: Transitional         and Developing Economies</b>	<b>24</b>
<b>Organization of the Report</b>	<b>25</b>
Reference Cited	25
<b>CHAPTER 2</b>	
<b>Business Incubation as an Investment Strategy:         Direct Profit Models, Corporate Venture Arms and         Corporate-Sponsored Incubators</b>	<b>26</b>
<b>Introduction</b>	<b>26</b>
<b>A. Direct Investment Models of Business Incubation:</b>	
<b>Accelerators, EcoNets and Metacompanies</b>	<b>27</b>
Accelerators	28
EcoNets	29
Metacompanies	31
How Successful Are Accelerators, EcoNets and Metacompanies?	32
Table 1: <i>Idealab! failures – October 2000</i>	34
Current and future trends in for-profit, or direct investment incubation models	36
Table 2: <i>Variables for Differentiating New Models of For-Profit Business Incubation</i>	38
Table 3: <i>Comparison of profiled for-profit incubators</i>	38

## CONTENTS ~ CONTINUED

### B. Indirect Profitability Approaches to Business Incubation:

<b>Corporate Venture Arms .....</b>	<b>40</b>
Does Corporate Venturing Work? .....	43
Present and Future Trends of Corporate Venture Arms .....	46
Corporate Ventures in Information Technology vs. Biotechnology .....	47
<i>Information technology</i> .....	47
<i>Biotechnology/pharmaceutical</i> .....	48

### C. Corporate-sponsored Incubators ..... 50

How Successful Are Corporate-sponsored Incubators? .....	51
--	----

## Chapter 2 Appendix A

### Profiles Of Accelerators, IT Marketplace Incubators,

### Early-stage Venture Capital Firms, and Incubating Operating Companies ..... 52

Accelerator / Incubator Companies .....	53
Cenetec Ventures .....	53
Garage.com .....	55
IncuVest/Vennworks .....	58
TechSpace .....	60

### Operating Companies ..... 63

CMGI .....	63
Divine InterVentures .....	65
Internet Capital Group (ICG) .....	68
Raza Foundries .....	70
Safeguard Scientifics, Inc. ....	72

### Other Models ..... 75

Telecommunications Development Fund .....	75
Verner, Lipfert, Bernhard, McPherson & Hand1 .....	77

## Chapter 2 Appendix B Profiles of corporate venture arms ..... 79

### Information technology CVAs ..... 80

Cisco Systems .....	80
Intel Capital .....	86
Lucent Venture Partners .....	91

## CONTENTS ~ CONTINUED

<b>Agriculture, biotechnology, and pharmaceutical CVAs .....</b>	<b>93</b>
Cargill eVentures .....	93
Eli Lilly & Co. ....	97
Johnson & Johnson Development Corporation .....	100
Merck Capital Ventures .....	104
<b>Chapter 2 Appendix C</b>	
<b>Profiles of corporate-sponsored incubators .....</b>	<b>106</b>
Becton Dickinson Biotechnology Incubator .....	107
Fizzion (Coca-Cola) .....	109
Lucent New Ventures Group .....	111
Nidus Center for Scientific Enterprise (Monsanto Company) .....	113
<b>Chapter 2 References .....</b>	<b>118</b>
 <b>Chapter 3</b>	
<b>Foreign-owned and International Incubators in the U.S. ....</b>	<b>130</b>
<b>Introduction .....</b>	<b>130</b>
Foreign-owned Incubators .....	130
International Incubators .....	131
<b>Chapter 3 Appendix</b>	
<b>Profiles of Foreign-Owned Incubators in the</b>	
<b>US and US-Based International Incubators .....</b>	<b>133</b>
<b>Advanse International .....</b>	<b>134</b>
<b>Enterprise Ireland .....</b>	<b>135</b>
iPark Silicon Valley/Boston .....	137
Boston .....	139
JETRO US-Japan Business Incubation Center .....	140
Korea Venture Center .....	143
Panasonic Digital Concepts Center (PDCC) .....	144
Scottish Technology and Research Centers .....	147
Softbank Corp. ....	149
Incubator America .....	153
International Business Incubator .....	154
<b>Chapter 3 References .....</b>	<b>156</b>



## CONTENTS ~ CONTINUED

### CHAPTER 4

#### Business Incubators in Developing and Transitional

#### Economies of the Middle East and Central Asia ..... 158

#### Introduction ..... 158

#### Overview of International Economic Development Agencies

#### and Their Roles in Fostering Business Development in the Selected Countries ..... 160

*World Bank* ..... 161

*The International Finance Corporation (IFC)* ..... 161

*United States Agency for International Development (USAID)* ..... 162

*United Nations Industrial Development Organization (UNIDO)* ..... 164

*United Nations Educational, Scientific and Cultural Organization (UNESCO)* ..... 166

*United Nations Development Program (UNDP)* ..... 166

*UNDP in Europe and in the Former Soviet States* ..... 167

*UNDP in the Middle East and North Africa* ..... 169

*United Nations Development Fund for Women (UNIFEM)* ..... 170

*UNIFEM in Central and Eastern Europe and the Commonwealth of Independent States* ..... 172

*Asia Pacific and the Arab States* ..... 173

*The Eurasia Foundation* ..... 174

#### Highlights of Business Incubation Activities in Central Asia and the Middle East ..... 177

Middle Eastern Countries ..... 179

### Chapter 4 Appendix

#### Business Incubators in Developing and Transitional

#### Economies of the Middle East and Central Asia ..... 181

Armenia ..... 182

Azerbaijan ..... 192

Bahrain ..... 198

Cyprus ..... 208

Egypt ..... 211

India ..... 225

Iran ..... 231

Israel ..... 233

Jordan ..... 245

## CONTENTS ~ CONTINUED

Kazakhstan .....	258
Kyrgyzstan .....	264
Lebanon .....	270
Pakistan .....	273
West Bank/Gaza .....	280
Republic Of Georgia .....	287
Saudi Arabia .....	290
Tajikistan .....	293
Turkey .....	297
Turkmenistan .....	302
United Arab Emirates .....	307
Uzbekistan .....	315
Table 1: Business Incubators of Uzbekistan: .....	320
Yemen .....	322
<b>WORLD WIDE WEB ADDRESSES .....</b>	<b>325</b>
<b>INDEX .....</b>	<b>328</b>

## FOREWORD

Technology-led economic development strategies continue to take root in the U.S. and around the world. Knowledge and innovation are the natural resources of the 21<sup>st</sup> century, and developing the capacity to support the people and industries that possess these resources is a critical element to economic growth.

This new reality places a premium on the ability to successfully develop and support new businesses and advance within existing industries. The U.S. has excelled in this regard and continues to develop strategies to leverage our existing strengths to support technology-led economic development (TLED). We now see nearly every other country in the world also in pursuit of this objective, and business incubators are a vital component of an effective TLED strategy.

As part of our 2002 TLED activities, OTP contracted with the Southern Technology Applications Center (STAC) of the University of Florida to discover new models and trends in business incubation. This study expanded its scope to include the countries of the Middle East, Central Asia and North Africa partly as a result of the tragic events of September 11, 2001 and as a result of globalization and increasing international efforts to foster economic growth in transitional and developing economies. Therefore, effective and insightful conclusions can for the first time be drawn regarding the emergence of business incubation trends across a variety economic, political and cultural settings.

The data presented will expand understanding of the organization and purposes of business incubators and the impact that they have, better equipping entrepreneurs, policy makers and practitioners develop technology-led economic strategies. As always, the OTP welcomes comments, suggestions or feedback on ways to make this report even more useful, or on other topics central to technology-led economic development.

Chris Israel

Deputy Assistant Secretary for Technology Policy

## PREFACE

This study began as an exploration into current and emerging models of business incubation in the US. As events progressed, however, it was expanded to include a survey of business development and incubation activities present in the countries of North Africa, the Middle East and traditionally Islamic nations of Central Asia.

Thus the study provides something of a mix for readers. The first half of the work, which comprises chapters 1, 2 and 3, describes new models and trends in business incubation in the US as the result of the increasing presence of early stage seed and venture investors. Additionally, the effects of globalization can be seen in the more recent emergence of incubation facilities in the US that are owned by foreign corporations and/or consortia of government and industry groups. These latter facilities are designed, more often than not, to provide foreign-owned companies with a means to open up US markets. To that end, they not only provide the usual array of business support services but also a variety of cultural socialization activities, such as language classes and assistance in locating living quarters.

The second half the study, in contrast, is a survey of business development and incubation activities in the Middle East, North Africa, and the Islamic countries of Central Asia. No attempt was made to analyze the successes, failures or operating styles of the various programs currently underway in those countries. Information was taken largely from Internet-based sources, along with other publications. Consequently, any shortcomings of the information rest with the authors, and while we have made every effort to be as thorough as possible, new programs are being established every day that do not have, as yet, extensive visibility in the literature.

As the research progressed, it became clear that the many forms and approaches to business incubation depend as much on the level of development of a given national economy (developing, transitional or developed) as on cultural traditions regarding entrepreneurship, profits,

*“...the many forms and approaches to business incubation depend as much on the level of development of a given national economy as on cultural traditions...”*

rents, labor, taxation and other political, economic, and social practices of a given community, region, and nation.

Despite economic and cultural differences however, almost everyone agrees with the idea that new businesses have a better chance of succeeding if the entrepreneurs who establish them have access to all sorts of experts and investment capital at the right times and in the right amounts. The concept of business incubation is uniquely Western in its underlying assumption that business development is a rational process. If planned and blueprinted properly, new business enterprises can be deliberately constructed for long-term success despite the vagaries and unpredictability of markets, world events, and technology development. In other words, business incubation is perceived as more science than art, and the challenge is to establish business incubation systems that are rational, appropriate and effective.

Business incubation facilities are now found in almost every country of the world. In the US alone there are several hundred incubators of various types and sizes, with or without venture capital investment funds, and with different goals and objectives. Managers of such facilities have their own professional societies and networks of colleagues. In Western Europe and the transitional economies of Central Europe, networks of incubators and technology enterprise centers have sprung up during the past ten or so years. Governments of developing countries, too, are moving to embrace the business incubation concept, and incubation programs managed by US universities and other entities such as the Austin Technology Incubator and IC<sup>2</sup> of the University of Texas at Austin, and funded via the United Nations, USAID and other organizations are beginning to emerge.

The literature related to business incubation is expanding rapidly. Practical manuals, reviews of incubator best practices, annual surveys of business incubation programs and their successes, as well as critiques are multiplying. Much of the literature focuses on what makes for a successful incubator, and formulas for success abound.

*“What makes for a successful incubator is still unclear..”*

But what makes for a successful incubator is still unclear as is how incubation facilities specifically contribute to the development of successful businesses. Is success determined by the amount of wealth realized by an enterprise's initial investors or by subsequent equity investments made in a new business by the incubator? Is it measured by the number of new jobs created in a community? Is it measured by the incubator itself undergoing some liquidity event, such as an initial public offering (IPO)? Or is success signified by broader geopolitical or econometric standards, such as a measurable shift toward free market capitalism, the rise and expansion of a middle class, or greater national economic competitiveness in the global marketplace?

In fact, while all of these measures continue to be utilized individually and collectively to measure business development success, not all measures are appropriate to all situations. Understanding which success outcomes are most meaningful for which groups of stakeholders (incubator managers, other venture investors, sponsoring funding agencies, community supporters, and the entrepreneurs themselves) is essential when considering the feasibility and desirability of establishing a business incubator within a community anywhere in the world.

Thus, business incubation can serve as an economic development tool designed to have broad impact on a particular community in Pakistan or Turkey, for example. Incubation success in this context is measured by a set of success criteria that are very different from criteria used by early stage seed and venture capital groups that utilize business incubation as a tool for generating profits. Business incubators funded by the US Department of Commerce's Economic Development Administration (EDA), the US Agency for International Development (USAID), or the United Nations Industrial Development Organization (UNIDO) define success very differently than do business incubation facilities operated by early stage venture investment groups, such as Safeguard Scientifics, Inc. and CMGI. While the types of services provided to business start-ups may be similar, expectations and operations vary.

The success of business incubation programs also depends in large part on the nature and extent of the economic, educational, political,

and social infrastructures already present in a community, region or nation. In developing economies, for example, there may be few educated workers, erratic transportation, no intellectual property law, and undeveloped banking and regulatory systems. In such situations, business incubation programs must address these larger issues in order to nurture an entrepreneurial spirit and foster development of new business enterprises.

What does this mean for the present study? In short, emerging models of business incubation in the US are directly related to the entrance of angel investors, corporate venture groups, and venture capital as integral parts of the business incubation community. New models also reflect strategies of whole industry sectors, such as telecommunications, or nations to provide business development opportunities in international or global markets. In North Africa and the Middle East, on the other hand, business incubation programs follow more traditional economic development models with an emphasis on infrastructure development as well as business development.

Entrepreneurs in the US who are contemplating entry into a business incubation facility need to be aware of both the expectations and operating methods of incubator management. Similarly, universities, communities or Federal laboratories seeking to establish business incubation facilities to stimulate economic growth need to be cognizant of the differing goals and expectations of various government and non-government funding sources. Venture firms and other investment groups, while increasingly sought after partners in economic development type incubation programs, bring different values, goals, and expectations into the equation. Managing diverse and sometimes competing expectations is a difficult task, but one which can yield great benefit if it is successful.

Thus, the two parts of the study illuminate the contrasting approaches to business incubation. On one hand are the profitability models of incubation that have become established in the US, including Eco-Nets, Metacompanies, and accelerators. On the other hand, formidable economic development challenges are being addressed by more traditional business incubation models in North Africa and the Middle East as

well as in the transitional economies of Central Asia. This contrast reflects the dynamic nature of business incubation and business development in various parts of the world, and sets the stage for further research.

As a final note, the setting in which the study was performed was also a dynamic one, in that the bulk of the research was carried out amidst the dismantling of the Southern Technology Applications Center (STAC). The authors are grateful to the Technology Administration of the US Department of Commerce, our partners in this research effort, for their patience and continued support as STAC and several other entities were discontinued as part of the reorganization of the College of Engineering at the University of Florida. The lead author of the study, Dr. Cris Johnsrud, subsequently founded Pathfinder Research, Inc., and finalized preparation of the manuscript under that aegis. For this reason, the Pathfinder logo appears throughout the study. Questions and comments about the study may be directed to Dr. Johnsrud at [PathfinderResearch@alltel.net](mailto:PathfinderResearch@alltel.net).



## ACKNOWLEDGMENTS

Several individuals provided invaluable help and encouragement during the course of this research project. We wish to thank Mr. Douglas Devereaux and Mr. Ken Ferguson of the US Department of Commerce Technology Administration Office of Technology Policy for reviewing the various drafts, providing thoughtful and insightful suggestions for improvement, and for their constant encouragement. They were true partners in this endeavor. We also thank Mr. Erik Sander, previously with Cenetec Ventures and now Director of Industrial Programs for the University of Florida's College of Engineering and Mr. Morris Windhorst, Director of the Gainesville Technology Enterprise Center—a technology-based business incubator located in Gainesville, Florida, for their participation as part of the research team. They assisted in identifying individuals for informal discussions, provided information from their own experiences and from written documents, and also reviewed several drafts of the manuscript.

Several business development and incubator managers also gave of their time and personal knowledge of business incubation for the project. These include Ms. Patti Breedlove, manager of the nationally-recognized UF-Sid Martin Biotechnology Incubator, Ms. Rose Cauchon of Enterprise North Florida Corporation, and members of the Gainesville Area Innovation Network (GAIN).

Finally, we are extremely grateful to Mr. Jim Burns and Mr. Alec McDaniel of Creative Communications in Gainesville, for the design and layout of the final report. Jim and his staff also contributed many long hours to develop the electronic version and the accompanying index to the report, which we hope readers will find especially helpful.

## CHAPTER I. INTRODUCTION AND OVERVIEW

**T**HIS PROJECT was undertaken with the objective of discovering new models and trends in business incubation. It was part of a larger-scale effort sponsored by the US Department of Commerce Technology Administration, Office of Technology Policy that focused on a wide range of issues related to business incubation. Other studies focused on capturing best practices in incubator management and assessing the economic impacts on local and regional economies of business incubators affiliated with Federal laboratories and/or universities. The results of those studies will be released in a separate report.

This study, in contrast, was designed to explore the future and to identify, if possible, emerging trends in the field of new business development and incubation. For this reason, the present study did not dwell on the practices of business incubation, *per se*, nor did it seek to address effectiveness of one set of practices versus another. Rather, the intent was to uncover evidence of new approaches to business incubation that have the potential to expand economic development, to create a vibrant and growing technology-based business sector,<sup>1</sup> and to suggest avenues for further policy and program development research.

In addition to the project's original goal of revealing new trends and models of business incubation, the research team was asked to expand its treatment of "international" business incubation activities. As originally proposed, international business incubators referred to incubation facilities in the US that were owned and/or operated by foreign-based corporations or other entities or that catered to start-up enterprises owned by foreign nationals in the US. However, partly as a result of the tragic events of September 11, 2001, but also partly as a result of globalization and increasing international efforts to foster economic development in

*"...the intent was to uncover evidence of new approaches to business incubation..."*

---

<sup>1</sup> By "technology-based," we refer to technology in its broadest sense. It includes products and processes discovered and developed in areas as diverse as biotechnology, pharmaceuticals, medical devices, communications, advanced materials, robotics, sensors, food processing, agriculture, and a plethora of other engineering and science areas. We do not use the term "technology business" in this report to reflect only the computer and electronic communications industry, as is often the case in business analyses of "technology stocks" or "technology companies."

both developing and transitional economies, the researchers were asked to assemble a set of baseline information about business incubation activities in countries comprising north Africa, the Middle East and reaching up into several of the transitional economies of newly independent states of the former Soviet Union.

Data collection was accomplished primarily by collecting and reviewing written materials available in print or on the Internet. Additionally, information was obtained through a number of discussions with knowledgeable experts in the field of business development and incubator management. Two individuals, especially, provided valuable insight and information regarding current state-of-the-art aspects of business incubators as part of larger scale economic development initiatives as well as business development activities of accelerators and early stage seed and venture investment strategies.<sup>2</sup> They suggested novel avenues for exploration and offered critiques of earlier drafts of this report. A number of other individuals also graciously gave of their time and expertise, including the director of a biotechnology business development incubator, venture capital investors, university technology transfer officers, and other business development and assistance professionals.<sup>3</sup> Finally, individuals from the US Department of Commerce Technology Administration were also especially helpful in providing names of contact persons in economic development agencies and other information for use by the project team.<sup>4</sup>

Data collection and analysis reveal that business incubation programs and facilities and business development support activities in general continue to expand in the US and internationally. Further, the variety of services available to clients also continues to grow, particularly the

---

<sup>2</sup> Morris Windhorst, Manager of the Gainesville Technology Enterprise Center, and Erik Sander, formerly of Cenetec Ventures and currently Director of Industry Programs for the College of Engineering at the University of Florida, provided much appreciated and uncompensated contributions of time and effort to this project. The project team is extremely grateful for their participation and for the valuable insights they provided.

<sup>3</sup> These other individuals included Ms. Patty Breedlove, Director of the University of Florida's Sid Martin Biotechnology Development Institute, Ms. Rose Cauchon of Enterprise North Florida Corporation, members of the Gainesville (FL) Area Innovation Network (GAIN), and others.

<sup>4</sup> These individuals were Mr. Doug Devereaux and Mr. Ken Ferguson, and we also acknowledge and thank them for their time and effort in shaping the directions of this project as well as for their patience and continued encouragement when unanticipated difficulties and challenges delayed portions of the research activities.

availability of early stage seed capital. In fact, in the past five to ten years, providing clients with access to early stage and subsequent rounds of venture funding has become a staple service of many successful incubator programs.

It is important to state here that two significant driving forces distinguish the various approaches to business incubation. That is, business incubators are established either (1) to achieve local and regional economic development goals with a social return on investment through the generation of jobs and businesses, or (2) to generate profits for the incubator operator(s) and investors. The most interesting new trend is a combination of both these driving forces. The following paragraphs describe the first two underlying driving forces and illustrate their influence on the nature and operations of business incubation facilities in the US and abroad.

### **Business Incubation as an Economic Development Strategy**

**T**HE MOST WIDELY HELD assumption about the need for business incubation is that it is a successful economic development strategy. Business incubators are viewed as a key means to strengthen local economies because they help more new businesses survive the precarious early years. Thus, municipal and state governments often fund and support business incubators as a way to increase the number of companies in a community, thereby increasing the number of better-paying jobs and broadening the tax base. Similarly, numerous efforts are underway to establish business incubation facilities that will accelerate economic development by establishing and strengthening an entrepreneurial climate in developing and transitional economies. Recently, efforts have increased to determine quantitative impacts of business incubation on local communities.<sup>5</sup>

Business incubators of this type are most often established to stimulate business formation and revitalization of economically depressed areas where business start-ups are at high risk of failure. There is a significant body of literature about business incubation as an economic

---

<sup>5</sup> See, for example, the NBIA study entitled, "Impact of Incubator Investments" (1997) a report funded by the US Dept. of Commerce Economic Development Administration.

development tool. Similarly, there are a number of regional and national, even international associations for business incubation support. Examples include the National Business Incubation Association (NBIA), the Pacific Rim Incubation Network, and several business incubator networks sponsored by the World Bank, the United Nations, and other entities.

In an earlier work, Johnsrud (1998) profiled the most common elements of successful business incubation facilities culled from the extensive literature and resources available from NBIA and other sources. Despite the early date of this report, these elements in general have not changed for traditional business incubators and include:

1. Provision of a facility to house client firms, including office space, business services and access to laboratory and other technical resources needed for prototyping, testing and analysis for technology-based clients;
2. Agreement among stakeholders on the objectives of the incubator, including short-term and long-term expectations about tenants' growth and maturation;
3. Experienced incubator managers who can design and deliver customized services to address the unique needs of client firms;
4. Design or use of long-term financial support strategies that draw on locally available investment sources, client fees, and downstream equity or royalty returns; and
5. Reliance upon a supportive community infrastructure to facilitate access to the widest possible range of financial, management, marketing, technical, legal and information resources needed for tenant training, networking, market analyses, regulatory compliance and product development.

All business incubators must have a strategy for continuing operations, and most do so through establishment of a variety of income streams such as grants from local and state agencies and other support organizations, limited financial returns from profits earned by client firms

of the incubator through equity or royalties, and through rents and other fees charged to client firms. More recently, some incubators have also established seed funds that are available for highly qualified tenant firms based on business plans and anticipated future revenues from commercialized products and services. While not necessarily a characteristic of all such incubators, seed and venture funds do provide client firms with needed investment capital to achieve growth and stability. When seed funds are not available, successful incubators often maintain access to networks of angel investors and other sources of capital to which client firms are directed as appropriate.

To summarize, traditional public business incubators are established to achieve economic development goals. These are most often incubators “with walls” that provide office space and a suite of specialized assistance to a variety of start-up firms in a wide range of manufacturing, service, retail, and other industries. Incubators established with economic development goals are often located in economically depressed or rural areas, sometimes in abandoned warehouses or other building structures. The intent is to foster a number of high quality start-up firms that will subsequently become successful, grow, locate within the geographic area and employ a growing number of workers. Rents paid to the incubator by the client firms help defray expenses, contribute to increased property value and encourage more firms to locate in the general area.

### **Business Incubation as an Investment Strategy**

**I**N CONTRAST, MORE RECENT APPROACHES to business incubation emphasize investments leading to direct or indirect profitability for one or more investors or organizations. Examples of these more recent investment strategies include (1) for-profit incubators that resemble operating companies, including accelerators, EcoNets and Metacompanies, (2) corporate venture arms and (3) corporate-sponsored incubators. The goal in each of these general investment-type incubation systems is to make a significant financial return by making sizable equity investments in and/or providing intensive management and technical development assistance to a few highly promising companies.

The for-profit incubators arose in the early 1990s as an outgrowth of the experiences of venture capitalists in the 1980s as well as from the corporate practice of realizing profits from acquisitions and mergers in addition to (or as a substitute for) profiting from sales of manufactured products. Since then, a variety of approaches have emerged, some with greater success than others.

The earliest of these new approaches emerged with the explosive growth of Internet-based companies. After a slew of successful “dot.com” IPOs (initial public offerings) in the early 1990s that earned millions of dollars for early investors, some technology business incubators began to focus exclusively on nurturing dot.com start-ups in a cash-rich environment. These organizations identified themselves as “accelerators” rather than business incubators in the traditional sense. That was because the short life span of most information technology products (software, chips, and hardware configurations) and the need to “accelerate” the speed of transforming an idea into a product required a far more intensive approach to building new companies. In the accelerator model of business incubation, investors selected a small number of very promising technology-based start-ups and put them on the fast track to an initial public offering (IPO) or merger and acquisition (M&A) status. The IPOs initially generated huge profits in many cases, leading to a new view of business development as a primary strategy for realizing profits. Another outcome of the early successes was the fact that the accelerators themselves began to work toward their own IPOs.

However, the accelerator movement was short lived, by most standards, and the accelerators were replaced by other models. When the dot.com industry collapsed in early 2000, most of the accelerators that had a disproportionate share of dot.com start-ups as their tenants also went out of business. Nevertheless, the strategy of making early stage investments in promising start-ups has become a staple service for most business incubation programs, and this trend shows no signs of fading. Accelerators were followed by other investment-type models, such as EcoNets, Meta-companies, and an explosion of venture capital firms. In fact, as noted earlier, many “traditional” economic development focused

business incubation facilities also adopted venture funds or have established formal relationships with investor groups and networks as a way to help client firms obtain investment capital needed for successful growth and sustainability. Thus, not only do the incubators continue to provide their clients with access to management, legal, financial, and other business assistance, they also help coach them in developing and making presentations to potential investor groups.

A number of accelerators and successor models were examined during the research, and profiles have been developed as reference points for the discussion in Chapter 2 of this report. The profiles are presented in the appendix to Chapter 2. Profiled accelerators, EcoNets, meta-companies and other innovations include the following:

*Accelerator/Incubator Companies*

Cenetec Ventures  
Garage.com  
Incuvest/Vennworks  
TechSpace

*Operating companies (including EcoNets and Metacompanies)*

CMGI  
Divine InterVentures  
ICG  
Raza Foundries  
Safeguard Scientifics, Inc.

*Other models*

Telecommunications Development Fund  
Verner, Liipfert, Bernhard, McPherson & Hand

In addition to these acceleration-type models, many large manufacturing corporations have formed their own “venture investment arms” to search for and invest in technology-based start-up firms with an end product or suite of products and technologies that, with further development, could benefit the bottom line. The goal is to minimize the costs of the corporation’s own internal research and development activities,



maintain a full pipeline of new products in development, and gain flexibility in technology and speed to market by buying and selling small firms with technology development resources. In this way the corporate parent has access to a steady supply of new technologies and creative, engaged entrepreneurs from all over the world who, in turn, may benefit by having a ready market for their products and access to financial investments for new product development.

Several corporate venture arm models are provided in the appendix to Chapter 2. They include corporations in two very different industries, Information Technology (IT) and agriculture, biotechnology and pharmaceuticals as a way to illustrate the effects of distinctive industry dynamics on the organization and management of corporate venture arms. Profiled corporate venture arms include:

#### Information technology CVAs

Cisco Systems

Dell Ventures

Intel Capital

Lucent Venture Partners

#### *Agriculture, biotechnology, and pharmaceutical CVAs*

Cargill eVentures

Eli Lilly & Co. (e.Lilly & Lilly BioVentures)

Johnson & Johnson Development Corporation

Merck Capital Ventures

Additionally, a few corporations have gone so far as to establish their own incubation facilities, often on the same corporate campus as headquarters offices or major manufacturing facilities. While still a relatively rare occurrence, these incubators help entrepreneurs develop technology from either external or internal sources, and they share costs of development in the latter case. Monsanto and Lucent Technologies, among other corporations, have followed this strategy in recent years by providing a facility for internal entrepreneurs. They provide internal entrepreneurs with support in starting their own businesses for commercially developing technologies spun off by the corporation but that do not fit into

the corporation's current product development plans. In some cases, the corporation allows the entrepreneur to have access to idle manufacturing equipment and floor space as a way to maintain capacities and operating economies.

In other cases, corporate-sponsored incubators house entrepreneurs who are developing technology from external sources. Although these types of incubation facilities are relatively rare, they may represent an emerging trend for larger established corporations who wish to retain creatively skilled entrepreneurs by providing them with opportunities to develop new technologies. Coca-Cola and Becton-Dickinson both illustrate this type of corporate-sponsored incubator model.

Again, several profiles were developed to illustrate how corporate-sponsored incubation facilities operate. These include Becton Dickinson Biotechnology Incubator, Fizzion (Coca-Cola), Lucent New Ventures Group, and the Nidus Center for Scientific Enterprise (Monsanto), and they are provided in the Appendix to Chapter 2 of this report.

### **Foreign-Owned and International Incubators in the US**

Still another investment strategy that has emerged in recent years is the presence of foreign-owned business incubators in the US. In some cases these represent the interests of a specific country, such as Japan, wishing to establish a foothold in US markets for Japanese-owned companies. Other examples of "international incubators" in the US include those that are designed to assist entrepreneurs from a variety of ethnic backgrounds to establish successful companies. Profiled incubators in this category appear in Chapter 3 of this report and include:

### *Foreign-owned Incubators*

Advance International (France)

Enterprise Ireland

iPark Silicon Valley/Boston (Korea)

JETRO US-Japan Business Incubation Center

Korea Venture Center

Panasonic Digital Concepts Center

Scottish Technology & Research Centers

Softbank

### *“International” Incubators*

Incubator America!

International Business Incubator (San Jose)

## Business Incubation in a Global Context: Transitional and Developing Economies

VIRTUALLY EVERY BUSINESS incubation facility in the US and internationally is organized along the lines determined by investment (profitability) or economic development goals, with an increasing number of US incubators combining both aspects.<sup>6</sup> However, more often than not, the research found that business incubation facilities established or being implemented in developing and transitional economies are established to bring about economic development. Incubation facilities in transitional and developing economies are often supported by government as well as by international economic development agencies including the World Bank, the United Nations Industrial Development Organization (UNIDO), and various other international, state or regional groups.<sup>7</sup> The primary concern is to create and/or stabilize legal, regulatory, civil, financial and consumer environments that are conducive to new business development and growth. Business incubator networks, business development approaches and related areas were explored for the following countries:

Armenia	Lebanon
Azerbaijan	Pakistan
Bahrain	West Bank/Gaza
Cyprus	Republic of Georgia
Dubai Internet City	Saudi Arabia
Egypt	Tajikistan
India	Turkey
Iran	Turkmenistan
Israel	United Arab Emirates
Jordan	Uzbekistan
Kazakhstan	Yemen
Kyrgystan	

---

<sup>6</sup> Of particular interest is the Austin Technology Incubator, part of IC2 Institute in Austin, TX. (<http://www.ic2.org>).

<sup>7</sup> The Spice Group, a German-based consortium of science and technology development experts is one such group as is the Pacific Incubator Network (PIN). The US Agency for International Development (AID) also supports many economic development programs internationally through established business incubation facilities and networks.

These countries represent areas where business incubation activities are occurring. No significant business incubator activity was discovered for Sudan, Eritrea, Iraq, Libya, Afghanistan, or Syria, although that does not mean that such activities are not beginning to occur in these countries. Rather, it merely reflects the absence of information available from the electronic and print sources utilized in the project.

## **Organization of the Report**

Because of the eclectic nature of the areas of inquiry for this project, it was decided to organize the report as separate and self-contained parts. Each chapter consists of a general discussion, followed by a bibliography of references cited and an Appendix containing profiles or case examples. In this way, the reader can focus on the area of most interest without having to search through the entire document.

Thus, Chapter 2 examines new investment-type models of business incubation in the US, with particular attention paid to incubators that act similarly to operating companies. Business incubation strategies utilized by corporations are also profiled since they are relatively new approaches to business development, albeit with the goal of adding to corporate profits either directly or indirectly.

Chapter 3 examines the emergence and operations of foreign-owned or other 'international' incubators operating in the US. As the discussion moves outside the US and into the developing and transitional economies of the Middle East in Part IV, incubators with a focus on economic development are described and profiled. As with Chapter 2, Chapters 3 and 4 each have a bibliography of references cited and an appendix that contains the profiles of incubators that illustrate the various economic development strategies and/or investment/profitability motives that were and are the organizing forces and the outcomes that have occurred.

## ***Reference Cited***

Johnsrud, Cris

1998 - Study of Business Incubators: Models, Best Practices and Recommendations for NASA and Florida. Report prepared for NASA-John F. Kennedy Space Center. July (revised).

## CHAPTER 2

# BUSINESS INCUBATION AS AN INVESTMENT STRATEGY:

## DIRECT PROFIT MODELS, CORPORATE VENTURE ARMS AND CORPORATE-SPONSORED INCUBATORS

### Introduction

NEW MODELS OF BUSINESS INCUBATION began to emerge in the US in the early 1990s. These new types of business incubators differed from the more traditional and familiar incubators in their emphasis on obtaining a significant return on investment in a few, highly promising technology-based start-ups or by realizing profits through more indirect means. Many of them were focused on nurturing start-ups in a single industry, such as Internet-related companies or biotechnology, while others sought to vertically integrate a portfolio of companies to strengthen the corporate parent's bottom line.

Traditional incubators often focus on creating a number of diverse companies (manufacturing, retail, services, etc.) that will “graduate” from the incubator facility, lease or purchase office space in the same community, and continue to grow. The expected results include job creation and an increased tax base, and represent an economic development perspective. In contrast, the new approaches emphasized profitability in strategically targeted industries.

In this section of the report, three primary approaches are explored. The first approach is loosely referred to as for-profit incubators that invest directly in selected start-ups and that profit from their equity positions. Working more like “operating companies,” these “incubators” hand pick a few extremely promising start-ups, invest heavily, and provide intensive management, financial and technical resources to move them into profitable initial public offerings (IPOs), mergers and acquisitions (M&As) and other liquidity events. The second approach also involves

*“New models of business incubation often stress profitability.”*

making direct investments in promising start-ups, but the investment is made by a corporation in a start-up with a technology that will somehow enhance the parent corporation's product line(s). The corporate parent profits through a more indirect means in that the start-up's products are closely integrated with those of the investing company. Thus, "corporate venture arms" provide the parent corporation with increased R&D agility and flexibility, save the costs of maintaining internal R&D divisions, and ultimately produce successful start-ups that add value to the product line and bottom line.

The third primary approach, that of the corporate-sponsored incubator, is also an example of an indirect profit approach, although it is very similar to the more traditional and well known business incubators. That is, corporate sponsored incubators look like business incubation facilities, but they are funded almost exclusively by the corporate parent. Start-ups that are housed in the corporate incubator are often the brain children of current employees who have convinced corporate management to give them an opportunity to commercialize a technology that looks promising, but which may not be in the company's primary product development lines.

*“new “for-profit” incubators began dropping the “incubator” label and taking on new, more descriptive names...”*

#### **A. Direct Investment Models of Business Incubation: Accelerators, EcoNets and Metacompanies**

Emerging in the “dot.com” era of exponential growth in information technology companies, the first of the “new” business incubators sought to profit by investing in promising new companies and simultaneously providing intensive assistance in management, technology development, marketing, finance, accounting, product development, legal and investor relations. The “Accelerator” model was followed shortly by EcoNets and Metacompanies. While all are outgrowths of traditional incubator models, the new “for-profit” incubators began dropping the “incubator” label and taking on new, more descriptive names to distinguish themselves from traditional incubators. What differentiates them from the other newer models of business incubators is the fact that profits are solely derived from significant equity investments in successful start-ups. Further, they

tend to act like operating companies themselves, and several of the accelerators accomplished their own IPOs in addition to bringing client start-ups to liquidity events, such as IPOs and M&As.

Accelerators can be defined as incubators for which high equity stakes in client companies provide the incentive to bring start-ups to a revenue-producing stage as quickly as possible. EcoNets, in contrast, are large corporate-structured incubators whose portfolio companies give each other preferential business in synergistic arrangements. Metacompanies are also corporate-structured incubators similar to EcoNets but they vertically integrate portfolio companies rather than diversify. This section describes these investment models of business incubation in detail and profiles a number of case examples to illustrate both their successes and their failures in nurturing new companies.

### ***Accelerators***

Among the initial deviations from the more traditional model of business incubation was the “accelerator” – devised during the dot.com era of prosperity as a way of quickly bringing Internet-related start-ups to market. Also called “active incubators,” for-profit accelerators were believed critical in an electronic economy “where windows of opportunity open and shut in fleeting moments” (Rowe 2000). In return for a share of company equity (up to 50% or more), an entrepreneur could receive capital for initial (and/or subsequent) rounds of financing, business and legal services, access to the industry’s established human networks, and in some cases, office space. This contrasts with the traditional business incubation model, where office space and fees-for-services are generally constant features. With the help of an accelerator, entrepreneurs could be freed to focus solely on developing core products rather than the administrative details of starting a business (Rowe 2000).

Relatively high equity stakes in client companies provided accelerators the incentive to bring start-ups to a revenue-producing stage as quickly as possible. In most cases, this meant client companies pre-



sented their IPO in 90 to 180 days (Singer 2000). Provided the start-ups were successfully incubated, accelerators received high returns upon a liquidity event.

Among accelerators, there is some variation in the stage of development of portfolio companies at the time they begin incubation programs. The accelerator venture of consulting firm McKinsey & Co., for example, targets start-ups that already have some funding and solid management teams, some of which may have been previous graduates of other incubators (Hubbard 2000).

### **EcoNets**

Today, the term “incubator” is most often associated with the industry’s biggest players — large, publicly traded operating companies such as CMGI and Safeguard Scientifics, which maintain diverse portfolios. Larger incubators often take on a corporate structure, making them capable of going public themselves, but sacrificing their ability to spin-off incubated start-ups as independent IPOs. The Investment Company Act of 1940 requires that when a company goes public, it must maintain at least a 25.1% stake in the majority of companies in which it has invested (Singer 2000). This SEC legislation also requires that any firm with more than 40 percent of its assets in non-ownership positions in portfolio companies be declared a mutual fund, placing it under a far stricter set of regulations and reporting requirements (Henig 2000). Because of these legal requirements, corporate-structured for-profit incubators retain some control over their “graduated” portfolio companies – in effect creating an interdependent network of companies that resembles a conglomerate.

In recent years, many of these companies have been given the label “EcoNet” – a term coined by *Red Herring* in 2000. EcoNets are aggressive incubators that retain control of startups after their IPOs, arranging their companies into networks of “tightly knit, yet loosely controlled conglomerates” (Henig 2000). The effect is akin to what the Japanese call *keiretsu* – a group whose members rely on each other for synergy, and a term that has itself become a buzzword in the world of venture capital and business incubation. To reduce risk, an EcoNet does

*“EcoNets are aggressive incubators that retain control of startups after their IPOs...”*

not focus on a specific area of business, but instead relies upon a diverse portfolio to enable numerous types of interaction to occur among businesses in the network.

The argument behind a synergistic arrangement is that portfolio companies will be stronger by giving each other preferential business. An Internet advertising business can, for instance, sell advertisements to an e-commerce company that is also part of the same EcoNet, with both sides benefiting (*Financial Times*; London: 2000). Publicly traded incubator CMGI has been cited as an example of an EcoNet. One of CMGI's portfolio companies, Engage Technologies (an Internet advertising company), was retained by CMGI after it went public. This boosted CMGI's market value, and in turn offered Engage Technologies immediate access to a whole portfolio of captive customers within CMGI's network.

Advocates of the free-market fundamental have criticized this aspect of the EcoNet model, where parent firms retain the right to dictate which vendors a company can have and where it can go for marketing, legal aid, and accounting services (Henig 2000). Another criticism is that preferential business is often economically irrational, with each side getting something slightly worse than what they might have chosen in the open market (*Financial Times* 2000).

Companies within this kind of network typically outgrow their parent's offices after they have become established. Because of this, EcoNets often invest in firms that are large enough to have established headquarters that would be impractical to move (Key 2000). Philadelphia-based holding company, Safeguard Scientifics Inc., has stakes in some sizable publicly traded firms that fall into this category, such as Cambridge Technology Partners (Cambridge, MA) and CompuCom Systems Inc. (Dallas).

Smaller incubators, while certainly not the nodes of EcoNets in any formal sense, can also rely on a different kind of intra-portfolio synergy. Rather than doing business with each other, companies gain by

being able to share scarce resources, such as personnel. By this argument, companies inside an incubator are expected to enjoy a better rate of success than they would on their own (Financial Times 2000).

### ***Metacompanies***

The concept of the “metacompany,” as it is used in the venture capital business incubation lexicon, probably originates with Atiq Raza, founder of broadband incubator Raza Foundries. Raza trademarked the term “Metacompany,” which describes a for-profit incubator model that combines the key features of an incubator, a VC firm, and a diversified operating company. Like a corporation, a metacompany has a CEO and a corporate management team and maintains a significant (but less than 100%) ownership stake in a number of ventures.

Unlike VCs and EcoNets, however, metacompanies focus on a single area of business. Like EcoNets, businesses in this model maintain a certain degree of involvement with portfolio ventures after they have become established companies. While standard VC firms or smaller incubators focus on the venture creation process, the metacompany continues to exploit “collaborative synergies” among its successful ventures after they have become established operating companies (Malik 2000).

*“...metacompanies focus on a single area of business...”*

According to Anil K. Gupta (Stanford Technology Ventures Program), the goal of a metacompany is to reduce new venture risk by managing it rather than by diversifying broadly. Diversified firms commonly involve competition for scarce resources and promotions, preventing the development of collaborative networks. Portfolio companies inside a diversified firm often prefer to cooperate with external third parties rather than with their peers, resulting in centralized service units that become “bloated, slow-moving bureaucracies” (Malik 2000).

Comstellar Technologies, a metacompany focused on the communications industry, can be contrasted with the vertically integrated communications company, Harris Corporation. Comstellar owns less than a 100 percent stake in its portfolio companies, and accountability between it and its units is two-way.

### How Successful Are Accelerators, EcoNets and Metacompanies?

Despite early successes of these direct investment and profitability models of incubation, most of the accelerators, EcoNets and metacompanies have not survived in their original forms. Failure rates have been high for the following two reasons:

- 1) The for-profit incubator model is dependent on a steady stream of liquidity events that often cannot generate or pull back an adequate or timely cash flow in IPOs or M&A activity during a bear market.
- 2) Failure of incubators during the “tech wreck” was largely the result of two flaws:
  - (a) Exclusive focus upon investments in a lagging sector (Information Technology) and (b) revenue streams that relied upon portfolio IPOs, many of which were poorly managed.

*“...most of the accelerators, EcoNets and metacompanies have not survived in their original forms.”*

Subsequently, for-profit incubators moved to buffer themselves from future market downturns by diversifying and by drawing upon other revenue streams, such as fees-for-services. After April 2000, faced with a venture capital market that had suddenly turned hostile to Internet incubation, many of the smaller accelerators survived by developing their own internal VC funds.

According to the National Business Incubation Association, there are currently over 900 incubation programs in the U.S. Of these, 40 percent (360) are technology-focused, and 25 percent (225) are for-profit (NBIA 2002). These numbers are testament to the tremendous early success of both Internet-oriented businesses and the incubators that helped them on their feet. When the IPO market for Internet companies

took a turn for the worse, the for-profit incubators investing in them fell quickly from favor. Analysts began tagging the for-profit incubator model as “fundamentally flawed.” That is, they were dependent on a steady stream of liquidity events that could not generate an adequate cash flow during a bear market for Internet investments (Schnitzler 2001). When stock prices dropped, large, publicly traded incubators such as CMGI were faced with the necessity of scaling back, reorganizing, and redefining themselves (see CMGI’s profile in the appendix). Smaller incubators based on the for-profit accelerator model (e.g., Cenetec) were also forced to adapt.

Of course, not all of the smaller incubators survived these hard times, and while most of the larger companies made it through, all sustained considerable damage. Failure of Internet incubators in turn adversely affected the start-ups they were funding. When technology accelerator Techwell announced in November, 2001, that it was suspending operations by the year’s end, the four start-up companies it had been mentoring were left to fend for themselves (Schnitzler 2001). Another accelerator, 100x, had made a few successful deals – an online fitness community and a peer-to-peer software company – financed directly by founder Ken Lang with \$8 million. But by the start of 2001, 100x was out of business. According to Greg Erman, chief executive of MarketSoft Corp. who served on 100x’s advisory board, there was only one meeting of the advisers. The company failed not only because incubators had fallen out of favor, but because the Boston firm was too focused on speed (Healy 2001a).

In March 2001, after three years of operation, Durham-based incubator Fusion Ventures also closed its doors. The company had been trying to raise its second seed-stage venture fund, targeting \$20 million, when founding partners decided it was “impossible to raise a fund” in the current market. Of its five portfolio companies, four – NetGift Registry, Startupstreet.com, Career Cowboy, and NextAudio – have shut down (Christopher 2001b, Gibson 2001). Fusion’s sole success story, online textbook publisher OpenMind Publishing Group, was acquired by Lulu, Inc. in March, 2002 (CEDNC News 2002).

Many of the smaller accelerators that pulled through had adopted a strategy that addressed this very issue – the difficulty of raising venture capital funds in a market that had suddenly turned hostile to Internet incubation. Cenetec (see Appendix) renamed itself “Cenetec Ventures” and began developing its own VC funds to supplement investments from its previous streams. Cambridge Incubator, once a full-service incubator, took on a nearly identical strategy when it changed its name to Cambridge Innovations and restricted itself to seed-stage investing with entrepreneurial support (Christopher 2001b).

Other accelerators adapted through unique models that addressed flaws in the company valuation process. Internet infrastructure and enterprise software accelerator AV Labs continued to take its companies public within three to six months. The choice for portfolio companies to move into the AV Labs facility, however, was optional, and companies were expected to manage their own resources. The accelerator was also reluctant to put additional money into a portfolio company after its first investment until that company also received a funding commitment from another follow-on investor. In May 2001, AV Labs had a mixed, but adequate success rate, with 10 “graduations” and 5-6 failures of 23 companies backed (Christopher 2001b).

The damage sustained by the larger, publicly shared incubators is perhaps best exemplified by California-based Idealab! – what is often considered the “original” incubator. By October 2000, Idealab’s initial successes – eToys and GoTo.com – were trading at a fraction of the previous year’s highs. Table 1 demonstrates substantial failures for four of Idealab’s portfolio companies during this time.

**Table 1: Idealab! failures – October 2000**

Company	Sector	I.P.O.	Stock change from I.P.O
Etoys	Toy retailer	May 1999	- 80.8%
GoTo.com	Search engine	June 1999	- 17.5%
NetZero	Internet service provider	September 1999	- 89.3%
Tickets.com	Sales of entertainment, sports and travel tickets	November 1999	- 92.0%

*Source: Holson 2000*

Four other companies did not fare even this well and were forced to lay off employees and/or shut down operations. Eve.com, a large beauty and cosmetics site that shut down due to lack of profitability, laid off 164 employees. Scout Electromedia, the maker of “Mod” – a \$99 device intended as a city guide – closed down due to insufficient funds. FirstLook.com, a web marketing network that had shifted from the B2C to the B2B market, laid off 34 of its 103 employees. Finally, Z.com, an entertainment site with prominent Hollywood investors, laid off half its staff of 100 (Holson 2000).

In response to the market downturn, many of the larger incubators delayed their own IPOs. On Oct. 18, 2000, Idealab! announced it was canceling a much-anticipated initial public stock offering. Two days later, Garage.com, which provided financing and other services for high-tech startups, announced a similar IPO delay. These companies were aware of severe stock price drops among incubator/investment companies that were already publicly traded. CMGI experienced a drop in stock prices from \$165 per share in January 2000 to \$17 in October 2000. Its competitor, Internet Capital Group, fared even worse, with a drop from \$212 in December 1999 to \$12 in October 2000 (Holson 2000).

Although failures within the Idealab! portfolio reflected the early 2000 breakdown of the entire IT and e-commerce industry, recovery rates among the popular incubator’s client companies were mixed at best and did not correspond with subsequent improvements in the IT market climate. Etoys filed for bankruptcy protection in February, 2001, following a December, 1999, descent of its stock prices from which it never recovered (Kraeuter 2001). Shares of GoTo.com, which is now called Overture Services, Inc., dropped to a low of \$4.81 on December 21, 2000 (a drop of 81.5% from IPO). The company recovered, and in August, 2002, was trading at \$23 per share – a price comparable with its initial public offering, but nowhere near its November 1999 high of \$114 ([www.motleyfool.com](http://www.motleyfool.com)).

NetZero merged with its competitor, Juno Online Services, to form United Online in 2001. The company was trading at a low of \$1.75 per share on September 28, 2001, from which it has seen minimal recovery

(shares at \$12 in August 2002) (Hoover's Online 2002f). Tickets.com experienced the most dramatic drop in shares, from a high of \$256 in November 1999 to 52 cents per share on July 12, 2002. The company was trading at \$1 per share in August 2002 (Hoover's Online 2002g).

According to Morten T. Hansen (Harvard Business School), the median first round of financing for a start-up at an incubator is \$690,000. This does not take into account the additional money spent if a company has to stay in the incubator longer, or if "jittery investors" demand an incubator commit money of its own as a show of confidence (Holson 2000). Taking too great a share of equity has also been cited as a common reason for failure, "hobbling" chances of getting later-stage venture capital (Aoki 2000).

According to the IDC, there are three main strategies for successful business incubation: (1) repeatable business processes and risk management; (2) diversification of revenue streams and partnerships; and (3) establishing partnerships with Fortune 500 organizations to minimize risk. Diversification is particularly important for minimizing risk; incubators that draw upon other revenue streams or those that charge for some of their incubation services will buffer themselves from market downturns (PR Newswire 2000b). One exception to this rule is the "metacompany" model, discussed above and best demonstrated by Raza Foundries, which has seen considerable success with its vertical focus on broadband communications technology.

### **Current and future trends in for-profit, or direct investment incubation models**

Three major trends have been identified among for-profit incubator/direct investment models:

- Internal development of venture capital funds, typically through the implementation of a designated venture capital arm;



- “Naming trends” – the rise of new terminology for labeling and defining incubator models, usually to avoid using terms (e.g., “incubator” and “accelerator”) that have fallen out of favor;
- New forms of conglomeration, seen in both the metacompany and EcoNet models, accomplished by establishing long-term exit strategies for portfolio companies.

Across all for-profit incubator models, the basic assumptions remain constant. That is, the goal in all cases is to choose from among the myriad business plans submitted the most promising businesses for ensuring the greatest chances of increasing shareholder wealth – both for the incubator and its portfolio companies. Success of these selected companies is then contingent upon the right amount of financing and management resources, with due diligence and adequate market research on the part of investors. These assumptions contrast with business incubation models driven by economic development which are based on providing jobs and increasing the local or regional tax base.

Although this analysis reveals the development of unique incubation models in recent years, divisions among businesses falling into the “incubator,” “metacompany,” and “Econet” categories are often ambiguous. In fact, many businesses that would be considered simple venture capital firms, consulting firms, or “venture catalysts” may possess characteristics of one or more of these incubation models. Following are two tables for comparison of individual incubators and their models. Table 2 lists variables that help differentiate among the newer models of for-profit business incubation. Table 3 provides a comparison of 11 for-profit incubators profiled in Appendix A.

Entries in Table 3 on the following pages can be cross-referenced with Table 2 using the “Model” field.

**Table 2. Variables for Differentiating New Models of For-Profit Business Incubation**

	EcoNet	Metacompany	Accelerator
<b>Sector emphasis</b>	Diverse	Vertical	Generally diverse
<b>Exit strategy</b>	Long-term, post-IPO or M&A control	Long-term, with option for merger or acquisition by another company	Spin-off after accelerated IPO or M&A
<b>Interrelation among portfolio companies (synergy)</b>	Networking is critical	Networking is important	Networking is incidental
<b>Office space offered</b>	Rare	Rare	Common

**Table 3: Comparison of profiled for-profit incubators**

Accelerators				
Company	Model	Sector	Investment strategy	Revenue sources
Cenetec Ventures	Accelerator  Self-promoted: "Early-stage venture firm"	Medical technology, wireless communications, microelectronics, software development, Internet technology infrastructure	Stage: All stages, with emphasis on early-stage  Funding: Internal venture fund	Equity: 5% - 49%
Garage Technology Ventures  (formerly Garage.com)	Accelerator  Self-promoted: "Venture capital investment bank"	Semiconductors, robotics, Internet infrastructure, security, B2B and B2C, communications, software, wireless	Stage: Early-stage – 1 <sup>st</sup> or 2 <sup>nd</sup> round of financing  Funding: Two internally developed funds  Initial investment: \$2 million - \$25 million	Equity: ~5%  Cash placement fee: 4% - 6% of funds raised for clients  Other: (1) Charges for access to online business plans; (2) Charges for attendance at conferences
Vennworks  (formerly IncuVest)	Accelerator  Self-promoted: "Enterprise Factory network"	Biotechnology (genomics and microfluidics), wireless communications, e-commerce, Internet software	Stage: Early-stage  Funding: Externally, through industry partners	Equity: 0%; portfolio companies may pay variable equity to industry partners  Other: Investments from financial partners (e.g., Safeguard Scientifics)
TechSpace	Accelerator  Self-promoted: "network of office communities"	No focus	Stage: All stages  Funding: Venture capital arm (TechSpaceXChange)	Equity: < 10% for tenants' subsequent venture rounds.  Fees-for-services: \$750-4000 per month (rent at \$500 per person per month)

Table 3. (Cont.)

Operating Companies				
Company	Model	Sector	Investment strategy	Revenue sources
CMGI	Econet  Self-promoted: "Operating and development company"	E-business, infrastructure and enabling technologies, interactive marketing, Internet professional services, search and venture capital	Stage: All stages  Funding: Numerous affiliated venture funds, each focused on a sector  Initial investment: \$2 million - \$30 million	Equity: 1% - 88%  Operating company revenues
Divine, Inc.  (formerly Divine InterVentures)	Econet  Self-promoted: "Extended enterprise company"	B2B infrastructure service and e-commerce providers, Internet exchange market makers, software	Stage: Early-stage  Funding: "InterVentures" was relegated as an investing arm	Equity: $\geq$ 25%  Fees-for-services  Operating company revenues
Internet Capital Group	Econet  Self-promoted: "Operating company"	Market makers, infrastructure service providers	Stage: All stages  Initial investment: \$1 million - \$5 million	Equity: 3% - 75%  Operating company revenues
Raza Foundries	Metacompany	Broadband networking and communications	Stage: 1 <sup>st</sup> - and subsequent round funding  Funding: Two affiliated venture fund arms	Equity: 20% - 50%
Safeguard Scientifics, Inc.	Econet  Self-promoted: "Technology operating company"	Business and IT services, software and emerging technologies	Stage: All stages  Funding: Affiliated venture funds  Initial investment: > \$5 million	Equity: Average 34%  Operating company revenues

Table 3. (Cont.)

Other models				
Company	Model	Sector	Investment strategy	Revenue sources
Telecommunications Development Fund	Self-promoted: "Self-sustaining, private venture capital corporation"	Wireline voice and data communications, wireless voice and data communications, casting (traditional, cable, satellite, Internet), mobile enterprise, network quality	Stage: Seed and 1 <sup>st</sup> rounds of financing  Initial investment: \$375,000 - \$1 million	Equity: 10% - 15%  Other: FCC – wireless spectrum auctions interest
Verner, Lipfert, Bernhard, McPherson & Hand	Law firm	B2B and B2C e-commerce, software, venture capital	None offered (services only)	Fees-for-services

## **B. Indirect Profitability Approaches to Business Incubation: Corporate Venture Arms**

For start-ups seeking funding and assistance in establishing their high-tech businesses, traditional venture capital and business incubation are not the only options. Large corporations are also in the business of making investments in start-ups, often for strategic technology development or marketing purposes rather than simple financial gain. According to Dave Barry, editor of *Access Alternatives*, a corporate venturing report based in Wellesley, Massachusetts, today's corporate investors are looking to do two things: (1) advance their own technology and business practices by integrating new technology into their own; and (2) use their start-up investments as extensions of their own research and development.

Corporate venture arms (CVAs) are business development divisions that are wholly owned by the corporations that established them. In contrast to traditional VCs, which secure profits by rapidly deploying business models and liquidity events, corporate venture arms are concerned with strategic technological advancement. Entrepreneurs and start-ups often choose CVAs over independent venture capital because the CVAs offer greater stability, opportunity through access to customers, partners and visibility that may attract additional venture capital.

This highlights the major difference between a venture capital firm and a corporation that has established a venture arm. That is, while VCs are focused on substantial financial returns via rapidly deployed business models and liquidity events, corporate venture arms are concerned with technological advancement – particularly new technologies that can enhance the entrenched companies' brand names. In addition to funding, the start-ups receive the prestige of being associated with a big-name corporate investor, which provides credibility to attract other investors as well as future customers. Over the past ten years, many large corporations have opted to establish venture arms to complement their own internal research and development operations.

“It’s R&D with a profit,” said Barry. “And one way corporations use these investments in start-ups is to identify new technology that could [either] aid them or eat their lunch by the end of the day.” (Neel 2000).

Corporate venture funding is also known as “vendor capital,” and has experienced increasing demand from start-ups seeking financing. At the start of 1999, only one in five companies took corporate venture capital. By 2000, this figure had increased to one in three (Kelly 2001). Following IBM’s creation of its NetGen venture arm early in 2000, the fund’s organizers were faced with a flood of fledgling e-businesses wanting in – so much that by June, 2000, the company was considering discontinuing publicity for the fund just to deal with its existing applicants (Moltzen 2000).

Unlike venture capital funds, which are accumulated through capital from limited partners, such as high-net-worth individuals, foundations, and insurance funds, CVAs are wholly owned by the corporations that established them. The result is a fund that has no fiduciary responsibility to private investors, and less pressure to accelerate start-ups to a highly profitable IPO, merger or acquisition (Moltzen 2000). Regardless, start-ups with corporate venture backing may tend to mature faster by virtue of association. PacketVideo, for example, a wireless video developer that counts Intel and Mustang Ventures (the corporate venture arm of Siemens) as early shareholders, increased its staff from 10 to 270 employees, established eight offices, and began offering commercially available technology in a single year (Thompson 2000).

Another difference between corporate venture arms and traditional venture capitalists is that corporations won’t normally invest in a company that could cannibalize their existing business or compete head-on with suppliers or business customers. Instead, they tend to invest in firms positioned to promote or improve the competitive edge of their subsidiaries and business customers. Overall, corporations have multiple objectives for establishing venture arms, including: (1) enhancing innovation; (2) gaining early exposure to new markets and technologies; (3) developing customer bases; (4) utilizing smaller companies to execute research and

development; (5) generating new products faster and less expensively than they would on their own; and (6) identifying and accessing acquisition candidates (Thompson 2000).

Compared with independent firms, corporate venture groups tend to invest slightly less frequently in start-up and mature private firms. Instead, they disproportionately fund companies in their development or beta stages. They also tend to pay significantly more on investments, with a mean pre-money valuation of \$28.5 million compared with an average of \$18.1 million for independent firms (Gompers and Lerner 2000).

While the proportion of venture capital coming from corporate sources is known to be considerable, it is difficult to measure. According to VentureOne Corp., \$68.8 billion in capital flowed into new ventures during 2000. Of this, \$5.9 billion (8.6%) was classified as coming from corporate sources – a figure that may be grossly understated because funds that included even one venture capital source, regardless of corporate involvement, were classified as venture capital rather than corporate capital funding. For example, Intel Capital, the leading semiconductor maker's venture arm, always invests in collaboration with a venture capital firm. Therefore the \$1.3 billion that Intel invested during 2000 was classified as corporate investment. From *The Corporate Venturing Report* (published by Access Alternatives), 100 corporations were known to have venture arms in 1998 – a number that increased to 350 in 2001 (Cooney 2001).

In comparison to traditional venture capital, corporate venture funding has been characterized as having both benefits and drawbacks. Among the disadvantages is the inability for corporations to competitively compensate investment professionals, who may end up leaving their corporate jobs for higher-paid positions at private VC firms. Like everyone else in a company, corporate investment experts take home a regular salary. They receive stock options of their employer, but not the bargain-priced options in portfolio companies commonly offered by private VC firms. Comparatively lower rates of return may also make corporate venture arms less desirable for employees. Because corporations tend to put their money into lower-risk mid- to late-stage rounds, payoff is usually

less than in private venture capital firms. Lastly, corporations that invest strategically often don't want their employees on the boards of portfolio companies because of potential conflicts of interest. (Davey 2000b).

Reasons for choosing corporate over independent venture capital include greater stability, opportunity (through access to customers and partners) and visibility. Large corporations also offer larger markets for their portfolio companies to beta-test products. SunAmerica Ventures, a VC subsidiary of SunAmerica Inc. and American International Group, Inc., offers this benefit for portfolio investments by virtue of its parent company. According to Troy Fukumoto, managing partner of the fund, "AIG is one of the largest companies in the world – it's in 130 countries. We can test in any of them. It doesn't help to test your product on six people" (Brinsley 2001). The visibility obtained by having a high-profile corporate investor may function to attract traditional VCs. Since strategic investments often end with the parent company acquiring the startup outright, VCs can cash out without worrying about the stock market (Kelly 2001).

### **Does Corporate Venturing Work?**

According to Harvard Business School researchers Paul Gompers and Josh Lerner (2000), the organizational and incentive structures of venture funds are believed to have an impact on investment performance. Corporate funds, for instance, hampered by poor incentives and management interference, may be less capable of selecting or overseeing portfolio investments effectively. Because corporations often find it difficult to duplicate the autonomy and high-powered compensation schemes offered in independent venture funds, key personnel may depart once they establish connections with outside investors.

The typical corporate VC portfolio is considerably smaller and shorter-lived. While corporate funds invest in an average 4.4 companies (9.8 for corporations with strategic connections to their portfolios), independent VCs invest in an average of 43.5 companies. Smaller portfolios

may in fact be explained by shorter duration, with corporate funds lasting an average of 2.5 years, and independent funds lasting as average of 7.1 years (Gompers and Lerner 2000).

Two explanations may account for the shorter duration of corporate investments. First, the formation of corporate venture arms may be interpreted as a response to technological change. New entrants in an industry often exploit technological breakthroughs in more innovative and aggressive ways than do established incumbents, resulting in dramatic shifts in market leadership. The result is a short-run period of technological discontinuity, for which corporate venture capital programs are particularly suited. Once this transition period has passed, a corporation may subsequently dissolve its venture efforts.

Second, instability of corporate funds may reflect the manner in which they are designed. One advantage of the partnership structure typically employed by independent venture funds is that it has allowed VCs to make long-run investments without fear of demands to liquidate their portfolios. Recent pressures among VCs to shorten return cycles for under-performing portfolio clients have changed this climate somewhat. Corporate venture funds, on the other hand, are often structured as corporate divisions or affiliates without the protections afforded by a legal partnership agreement. As mentioned previously, the inferior compensation structures of corporate venture arms may result in defection of successful investors, potentially leading to dissolution of the funds they previously managed (Gompers and Lerner 2000).

Overall, three structural failings have been attributed to the frequent disillusion of earlier corporate venture programs: (1) ill-defined corporate missions, often with an array of incompatible objectives (*e.g.*, providing a window on emerging technologies *and* generating attractive financial returns); (2) insufficient corporate commitment to the venturing objective, with resistance commonly emerging from middle-management and R&D personnel; and (3) inadequate compensation schemes, characterized by a lack of profit-sharing (“carried-interest”) provisions (Gompers and Lerner 2000).



Countering this unpromising forecast for corporate ventures is the *complementarities hypothesis*, which suggests that the mutual advantages of having strategic connections with portfolio companies, while difficult to measure, may promote positive success rates for corporate investments. In their comparative analysis of over 32,000 venture capital placements (both independent and corporate), Gompers and Lerner denoted investments as having a “strategic fit” only when there was a direct relation between a line of the corporate parent’s business and the portfolio firm. Using probability of IPO as a measure of success, the researchers found that firms backed by corporate venture groups were significantly more likely to have gone public (35%) than those financed by other organizations (30%), and were less likely to be liquidated (15% vs. 19%). This finding was particularly true for investments in which there was strategic fit between the corporate parent and the portfolio firm (39% IPO rate). Corporate investors are likely to enjoy an additional surplus resulting from strategic connections with portfolio firms, which lead to subsequent investing at higher prices than others.

Higher success rates for corporate investments may also be explained by the significant human resources available within corporations for assisting in due diligence and consultation. Technical and marketing experts within numerous fields enable corporations to successfully diversify their portfolios (within their strategic investment framework).

Businesses considering partnerships through corporate venture arms should consider the following variables for evaluating the potential for success:

- Syndication: Does the CVA tend to invest alone, or in syndicate with other corporations and venture capital firms?
- Sector emphasis: Does the CVA invest in a diverse or narrow portfolio of companies? Are investments strategic for the corporation’s business?
- Stage of development: Does the CVA invest in seed-stage, early-stage, or development-stage businesses?

- Partnerships: What kinds of partnerships characterize the CVA's dealings with portfolio companies? Licensing agreements? Acquisition into parent company? Independence from parent company's R&D?

## Present and Future Trends of Corporate Venture Arms

According to the *Corporate Venturing Report* newsletter, corporate venture funding hit a record \$6.3 billion in the year 2000, nearly four times the \$1.7 billion invested in 1998 (Kroll 2000). This is not the first time prevalence of corporate investment has increased in the U.S. Since the first corporate venture funds began in the mid-1960's, their presence (or absence) from the national investment market has mirrored the cyclic nature of the entire VC industry.

During the late 1960s and early 1970s, more than 25 percent of the Fortune 500 firms established venture programs. In 1973, the market for new IPOs abruptly dropped, and corporations began scaling back on their initiatives. The typical corporate venture program begun in the late 1960s was disbanded after only four years. Then, following eased restrictions on pension fund investments and the 1978 lowering of capital gains tax rates, fund-raising by independent venture partnerships recovered by the early 1980s. Corporate investors followed suit, peaking their efforts in 1986, when corporate funds managed \$2 billion, or nearly 12% of all venture capital investment. After the stock market crash of 1987, the new market for IPOs again went into a sharp decline. By 1992, the number of corporate venture funds had fallen by one-third, with capital under management representing only 5% of the total venture pool nationally (Gompers and Lerner 2000). Given this history, while the recent increase in corporate venture funding is noteworthy, it should not be considered a unique future trend.

The current resurgence of corporate venture spending, while historically following cyclic market and VC trends, now also mirrors trends in business incubation. Increased use of incubation services that are

supplemental to financing, including administrative and legal consulting, personnel recruitment, technological infrastructure and office space, may represent a new strategy for corporate investment, which has seen mixed results. This trend may be interpreted as reciprocal to the trend among traditional incubators that have incorporated venture capital arms. In effect, the financing and incubation models of technology business development seem to be borrowing from each other, helping to eliminate the weaknesses of both strategies to create more stable, future models of corporate venture financing and business incubation.

## **Corporate Ventures in Information Technology vs. Biotechnology**

Corporate ventures exhibit different strategies depending on the industry in which the start-up companies are placed. We contrast the information technology and biotechnology industries in this section to provide a better understanding of the need for organizing corporate venture strategies according to the industry context.

### ***Information technology***

According to Venture Economics and the National Venture Capital Association, overall venture funding for information technology (IT) companies fell 31% from the second quarter of 1999 to the third. However, within this period, VC contributions by technology corporations maintained steady levels with 11.7% of total dollars given in the second quarter and 11.3% in the third quarter. Companies in the IT sector, with products ranging from computer chips to optical networking components, typically had considerable resources with which to access new technologies, and starting a VC fund was considered almost a rite of passage for these companies, proving there was a lot of money in the bank (Dingan 2001).

In addition to funding start-ups, some high-tech corporations funded other incubators or operating companies, which in turn back innovative technologies. For example, the investment arm of Compaq Computer Corporation, CPQ Holdings, Inc., invested \$50 million in Safe-guard Scientifics (see Appendix B, pp. 51) in May, 2000. The investment

was expected to continue Safeguard's strategy of acquiring leading-edge Internet infrastructure companies – a move seen as strategic for Compaq's own infrastructure acceleration (*PR Newswire* 2000). Compaq also invested \$20 million in CMGion – an Internet caching service company owned by publicly traded incubator CMGI (see Appendix B, pp. 47) – in return for a 4% equity stake. The investment was part of a comprehensive strategic alliance announced between Compaq and CMGI in June 1999, in which CMGI took a majority stake in AltaVista (the domain of which was purchased by Compaq in 1998), and Compaq became CMGI's largest outside shareholder (*Business Wire* 2000c). Whether a result of poor strategy or bad timing, Compaq's stake in CMGI declined sharply in early 2001, resulting in a \$1.8 million non-cash charge. The company's venture arm, which oversaw more than \$500 million invested in 60 different companies, was disbanded the following July, citing a slowdown in technology markets (*Houston Chronicle* 2001).

### ***Biotechnology/pharmaceutical***

The structure of most biotechnology venture funds resembles that of other corporate venture arms – operated independently from the parent corporation, yet with capital infusion coming directly from the parent. Because corporate venture funds will tend to support companies whose technologies are closely aligned with the parent corporation's own franchises, the chances of partnering are high, even if partnership is not required. For a start-up biotechnology or pharmaceutical business, however, it can be a distinct disadvantage to “hitch its wagon” to a large corporation too early in its development. Other potential investors may see the corporate partnership as prelude to an acquisition and be reluctant to invest (Van Brunt 2002).

To protect against this stigma, many corporate biotech funds have made a point of being quite distinct from their parents' R&D units, and in some cases taken extra measures to ensure independence. The venture arm of pharmaceutical giant GlaxoSmithKline (GSK – formerly SmithKline Beecham), S.R. One – which has invested more than \$300 million in biotech companies since its formation in 1985 – does not require portfolio

companies to enter into strategic collaborations with GSK. Nor does the venture arm necessarily invest in the parent corporation's outside collaborations, with such deals made on a case-by-case basis. However, the fund is limited by a \$100 million cap on the amount of capital available for investing (averaging from \$1 million to \$3 million per investment), and because the money originates directly from GSK, the corporate parent retains the right to veto any investment S.R. One plans to make. For these reasons, S.R. One formed an independent partnership with VC firm Euclid Partners in 2000. The result, EuclidSR Partners, was a fund that could invest larger sums of money (raising more than \$250 million in its first year) in deals that could not be rejected by GSK. Collaboration with Euclid Partners also broadened the fund's scope, including investments in IT and e-health companies (Van Brunt 2002).

## C. Corporate-sponsored Incubators

The distinction between corporate venture arms and corporate-sponsored incubators is often ambiguous, since both structures may offer start-up businesses similar ranges of funding and services, while their corporate parents may receive similar returns in the form of equity and strategic collaboration. For the purposes of this analysis, the primary characteristic that distinguishes a corporate-sponsored incubator is a *physical facility* within which portfolio companies are “incubated” with funding and services. For all companies listed in the corporate venture arm profiles above, services and funding are invariably offered at a distance, with portfolio companies expected to secure their own office space and infrastructure.

Incubators sponsored by corporations are far fewer than corporate venture arms, although their numbers have increased over the past two years. Following the establishment of incubators by major corporations such as Monsanto Corp. and Panasonic Technologies Inc., other companies quickly followed suit in a strategy to keep them on the cutting edge of new technologies. According to Dinah Adkins, president of the National Business Incubation Association, in the six months preceding October, 2000, the number of corporate-related business incubators tripled, from five to fifteen. “Corporations are continuing to realize that they can’t rely solely on their own innovation activities to ensure continued high rates of growth and to keep up with competitors.” For the most part, corporations that start their own incubators are seeking technologies that will fit their needs. Eventually, they may want to partner with or acquire the incubated companies (Etzel 2000).

Beating the competition to innovative technologies may be one force driving some corporations to keep their start-up ventures close at hand. In this sense, a corporate-sponsored incubator fulfills the function of an internal research and development effort, with three critical differences: (1) the developing technologies can originate from external or internal sources, (2) the entrepreneur, often an employee or associate of the corporation, maintains proprietary claims on the developing technologies, and (3) the costs of development are shared.

## How Successful Are Corporate-sponsored Incubators?

From the brief set of profiles in Appendix C, it is apparent that corporate-sponsored incubators are fewer in number and experience lower success rates than corporate venture arms. Compared with corporate venture arms, incubators do offer portfolio companies the distinct advantages of access to office space, common facilities and equipment. These advantages may be more pronounced for companies in the biotechnology and pharmaceutical sectors, where development and testing of products require the use of expensive, specialized equipment. It is perhaps for this reason that the two biotechnology incubators profiled in Appendix C have been more successful than the Coca-Cola and Lucent incubators.

The Becton Dickinson and Monsanto incubators are also located in areas that are rich in biotechnology research. While Monsanto's Nidus Center relies on a non-profit model and the BD Biotechnology Incubator is for-profit, both have seen success in selecting and incubating companies. The Nidus Center, in particular, benefits from its partnership with the nearby Danforth research facility, which provides resources and referrals. Direct comparison of success for these two biotech incubators is limited, however, since the non-profit Nidus Center emphasizes regional industry development, while Becton Dickinson's facility boasts more strategic and profit-driven aims.

Admittedly, Coca-Cola's Fizzion incubator, which has demonstrated very little progress, also receives recruitment services from an external agency – the Advanced Technology Development Center affiliated with the Georgia Institute of Technology (Georgia Tech). Other factors may be responsible for Fizzion's "lack of fizz" – among them, a lower funding cap for each portfolio company (\$250,000), and a flat, yet relatively high equity stake (12%).

Corporate-sponsored incubators are well worth observing in the coming years. Whether or not they become established as successful indirect investment models for business development is likely to be significantly affected by both the domestic and international industry trends.

## CHAPTER 2 APPENDIX A

### PROFILES OF ACCELERATORS, IT MARKETPLACE INCUBATORS, EARLY-STAGE VENTURE CAPITAL FIRMS, AND INCUBATING OPERATING COMPANIES

## CONTENTS

<b>ACCELERATOR / INCUBATOR COMPANIES .....</b>	<b>53</b>
<b>Cenetec Ventures .....</b>	<b>53</b>
<b>Garage.com .....</b>	<b>55</b>
<b>IncuVest/Vennworks .....</b>	<b>58</b>
<b>TechSpace .....</b>	<b>60</b>
<b>OPERATING COMPANIES .....</b>	<b>63</b>
<b>CMGI .....</b>	<b>63</b>
<b>Divine InterVentures .....</b>	<b>65</b>
<b>Internet Capital Group .....</b>	<b>68</b>
<b>Raza Foundries .....</b>	<b>70</b>
<b>Safeguard Scientifics, Inc. ....</b>	<b>72</b>
<b>Other Models .....</b>	<b>75</b>
<b>Telecommunications Development Fund .....</b>	<b>75</b>
<b>Verner, Lipfert, Bernhard, McPherson &amp; Hand1 .....</b>	<b>77</b>



## Accelerator / Incubator Companies

### Cenetec Ventures (<http://cenetec.com>)

Headquartered in Boca Raton, Florida, Cenetec was founded in March 2000 as a business accelerator, focusing on a diverse portfolio of high-growth technology start-ups, including companies in medical technology, wireless communications, microelectronics, software development, and internet technology infrastructure. A second office was established in Miami with intentions of tapping into the Latin American Internet market, however, according to Cenetec executive Erik Sander, this venture failed because the proper infrastructure wasn't yet in place and because the market was characterized by a lack of trust in electronic transactions (Sander 2002). In January 2001, the company opened a second facility in Gainesville, Florida.

By May 2002, Cenetec had reclassified itself as an "early-stage venture firm" focusing on technology commercialization (Hayes 2002). Accompanied by a name change to "Cenetec Ventures," this transition was more than just a strategy to dissociate from the term "accelerator". For one, less emphasis was placed on early time-to-IPO that was characteristic of the accelerator revenue model. The company had also spent a great deal of time fund-raising as an accelerator, which took the focus off of product development. Rather than spend "four months on the road just trying to find money," Cenetec Ventures raised its own venture fund with which to finance its start-ups (Sander 2002).

Despite this transition, Cenetec Ventures retained many characteristics of the incubator/accelerator model. In addition to office facilities, strategic guidance, marketing and legal support, Cenetec organizes investor showcases and angel investor forums, providing clients with fast-track exposure to multiple funding sources. With the addition of internal venture capital funds, the company was also able to add an investment banking arm and a broker dealer, allowing for mergers and acquisition work. These services are offered to portfolio companies in return for equity (between 5% and 49%), depending on valuation of the company.

Cenetec's client companies fall into one of three groups: 1) companies with a workable product or service that need help with marketing and sales; 2) companies starting to mature and see advantages in partnering with another company rather than going it alone; 3) companies that are building their sales levels, but need to raise a significant amount of private funding in order to grow to the next level (Hayes 2002). Unlike other incubator models, Cenetec Ventures does not restrict its business to early-stage entrepreneurs; 30-year-old companies and corporate spin-offs have also taken advantage of the accelerator's services (Business Wire 2001b). For every 1000 applicants who are screened, Cenetec selects nine, based on a 9-page "Diligence Checklist" that focuses on company valuation. "If we can't make money off of it, it doesn't make sense," Sander said in an interview. "We also ask, 'do we add value other than the money we bring in?' If it's just the money, the deal shouldn't be done."

Cenetec's Gainesville office is located in the Gainesville Technology Enterprise Center (GTEC), itself a non-profit incubator that offers business management and growth services to startups. Cenetec serves as an advisory partner with GTEC and is its largest client. In July 2002, the company announced it would halt new deals until the proper amount of funds could be raised. The decision was not expected to affect two of Cenetec's graduated clients – MarCon Global Data Solutions Inc. and ICU Datasystems – which continue to occupy offices within GTEC. Both companies are currently pursuing outside investment funds in order to commercialize their products (Coombs 2002).

## Accelerator / Incubator Companies

### Garage.com (<http://garage.com>)

Founded in 1998 by former Apple Computer evangelist Guy Kawasaki, Garage.com was intended from the onset to occupy the role of investment “middleman” – using its website to connect technology-oriented entrepreneurs with early-stage venture capitalists. While start-ups could look to Garage.com to match them with the appropriate VCs within their network, VCs relied on the company for its diligence in sifting through the tides of business plans to find the few potential winners. Initially, the service was aimed specifically toward ventures who didn’t have traditional contacts through venture capitalists, and who were looking to raise \$500,000 to \$5 million. Its clients encompassed a variety of different sectors, including semi-conductors, robotics, Internet infrastructure and security, as well as some B2C and B2B companies (Kaputska 1999, Silicon Valley Daily 2000, Kurdek 2000a).

Following the company’s first year of operation, offices were operating in Silicon Valley, Seattle, and Boston, with plans to open more locations in the U.S. and possibly overseas. Garage.com was established with a multiple-stream revenue model including: 1) taking a percentage cash placement fee — between 4 and 6 percent of the funds raised for its clients; 2) charging for access to business plans on its site; 3) charging for attendance at its conferences; and 4) taking a small amount of equity (about 5 percent) in portfolio companies. Garage.com’s two-day conferences, called “Bootcamps for Startups,” operate in major U.S. cities, charging about \$1,000 per participant. The conferences provide instruction for high-tech entrepreneurs in starting a company, raising funds from venture capitalists and angels, launching a company, recruiting a management team, and preparing plans, presentations, and business models. A new kind of “boot camp” for lawyers was started in 2000, teaching lawyers how to work with high-tech security firms. The company’s major investors include Charles Schwab, E-Trade, Sequoia Capital, Draper Fisher Jurvetson, and Advanced Technology Ventures (Kaputska 1999, Silicon Valley Daily 2000, Molineaux and Sabga 2000).

In February 2000, the company filed for a \$68 million initial public offering. While it was shooting for 5% commission in venture proceeds, placement revenues of only \$2.5 million for 1999 indicated that the average placement fee was only around 2.5%. By this time, Garage.com had opened three new offices in Austin, Israel, and London (Davey 2000a). Early in October 2000, Garage.com pulled the S-1 registration papers for its IPO, two days after technology incubator idealab! cancelled its own public offering. Despite its success in helping more than 60 startups secure over \$200 million in venture capital, the company cited adverse market conditions as its primary reason for abandoning its IPO plans (Kurdek 2000a). Later in the year, CEO Guy Kawasaki attributed to IPO withdrawal to the company's inability to do effective advertising and marketing (to "tout our success story") during the quiet period that follows an IPO. But as with other Internet incubators, the April 2000 Internet market downturn forced the company to take on some changes. According to Kawasaki, the entire industry changed after April 2000:

"It used to be that you got your money and you figured out your business plan. It's quite reversed now. Now you figure out your business model and then you get the money. It used to be that you got the money, then you hired your team. Right now it's the opposite. You hire your team and then you get the money." (Molineaux and Sabga 2000).

By October 2001, changes to the company's business model were considerable. Garage.com changed its name to Garage Technology Ventures – calling itself a hybrid between a VC and an I-bank. Through partnerships with 3i Group PLC, an international venture capital firm with \$11 billion under management, and the California Public Employees Retirement System (CalPERS), Garage raised two separate funds. These internally developed funds were used for seed money to help Garage's private placement clients build up their companies and attract additional financing from outside venture firms. A decrease in placements also forced the firm to shut down two branch offices in Boston and Israel, leaving the Palo Alto headquarters as its last remaining office, and laying off 20 employees (Fugazy 2001b).

Garage now identifies itself as a venture capital investment bank, providing placement services for clients in the communications, infrastruc-

ture, software, and wireless sectors who seek \$2 million to \$25 million in a first or second round of financing. In addition to improved access to capital, the firm provides information about current trends in venture finance. Companies are assisted in preparing investor roadshows and learning to effectively communicate investment opportunities to venture capital, corporate, and individual investors. Garage provides introductions to top-tier professional service providers, such as attorneys, accountants, and other key advisors. It offers portfolio companies advice on developing business models, financing strategies, and organizational infrastructure, as well as guidance on presentation, negotiation, and valuation techniques. The company's business development network extends beyond investors to include business partners, analysts, and industry influencers. With this network, clients are assisted in forging strategic partnerships and acquiring key customers – a long-term affiliation that continues well after clients receive funding.

For regulatory reasons, Garage Technology Ventures does not raise capital from investors located outside of the United States. Venture capital and corporate investors are expected to meet the following minimum qualifications to be admitted: 1) Professional investors must hold minimum assets of at least \$10 million, capable of making a minimum investment of \$250,000 in a Garage portfolio company; 2) Venture capital and corporate investors may not use Garage Technology Ventures to offer services for cash or other equity compensation. Likewise, angel investors must meet the following qualifications for admission: 1) They must exceed SEC "accredited investor" requirements, with a minimum liquid net worth of \$1 million and capable of making a minimum investment of \$50,000; 2) They should have prior experience investing in or managing technology or medical science companies. The first Thursday of every month, Garage offers a breakfast showcase where member investors can network and see presentations by three portfolio companies.

## Accelerator / Incubator Companies

### **IncuVest/Vennworks (<http://Vennworks.com>)**

IncuVest LLC was co-founded in October 1999 by former Schroder's executive Richard C.E. Morgan, who had a 20-year track record of transforming proprietary, sustainable technologies into market-leading technology companies, and Robert Bertoldi. Morgan and Bertoldi had been managing partners at Amphion Capital Management – a high-profile venture capital firm that was based on a strategy of focusing on fewer companies and giving them more attention, rather than trying to establish a portfolio based on numbers. In March 2000, New-York based IncuVest announced plans to build a global network of incubators, each with a specific technology expertise. Sectors of interest included biotechnology (genomics and microfluidics), wireless communications, and e-commerce and Internet software solutions. The company's plans involved investment in three or four incubators, each with three or four early-stage companies running in cycles that would be taken public within three years after conception. The companies would be on staggered schedules, so that each incubator had at least one company going public per year, giving IncuVest three to four IPOs per year. IncuVest itself was forecast for its own IPO by 2002. Among the services provided for clients were management talent, public relations teams, legal counsel, as well as facilities, equipment, and capital (Sacirbey 2000).

The first incubator in the company's "IncuVator" network was XL Vision, a Safeguard Scientifics partner company in which IncuVest had acquired a 42% stake. Located in Sebastian, Florida, XL Vision's goal was identifying and inventing "innovative and disruptive technologies," providing the strategic, technical, and operational support to develop each into a business with the ultimate goal of an initial public offering. Unlike other incubators or venture capital firms, XL Vision's unique model focused on value creation rather than value capture. By May 2000, additional IncuVators in the network were expected to follow XL Vision's model (Business Wire 2000e).

In November 2000, the company opened headquarters in London for its European operations. In partnership with British Telecommunications, the London incubator (now called an “enterprise factory”), was set to focus on developing telecommunications companies. IncuVest’s strategy had evolved into an exacting process of screening business ideas for patent or other intellectual property claims that would differentiate them from the competition. In addition, the company began using market studies and customer feedback to test whether ideas satisfied other criteria, such as the ability to attain a \$1 billion market capitalization goal. With such stringent selection criteria intended to minimize risk, IncuVest planned to invest just one new company a year at each of its four units (Graham 2001).

IncuVest changed its name in March 2001 to VennWorks – based on the Venn Diagram, which portrays how two merging yet seemingly disparate entities share mutually beneficial interests when combined. Rather than backing individual entrepreneurs or acquiring ownership interests in start-ups, VennWorks has adopted a company creation process (dubbed the “industrialization of enterprise creation”) that employs its network of “enterprise factories”. Currently, the company operates enterprise factories in Austin, TX, (focused on life sciences) and in the UK (focused on communications technologies). Enterprise factories are described as communities of serial entrepreneurs, business and technical experts established to identify “disruptive technologies” and transform them into market-leading businesses. The company’s technology operating network, which includes the Safeguard family of companies, features strategic partnerships with leading scientists, technologists, corporations and universities. VennWorks anticipates opening future enterprise factories elsewhere in the United States, Europe and Asia.

## Accelerator / Incubator Companies

### TechSpace (<http://www.TechSpace.com>)

Another of Safeguard's incubator/investment projects (see Safeguard profile, below), TechSpace was founded in 1997 on the vision of establishing a network of office communities to provide office space and business services for early-stage and established companies. After opening its first office in New York City, TechSpace expanded to Boston, San Francisco and Toronto. At each location, TechSpace attracted, start-ups, companies looking to downsize, and existing companies looking to deploy office space in top-tier regional markets. Each company office ranged in size from one to 100 people, although the average was 1-20 people (Schuch 1999).

TechSpace differs from the incubator model considerably, and company directors in fact "bristle" at the term, pointing out that TechSpace does not take equity in client companies (Hughes 2000). In addition, TechSpace does not focus on developing companies within any particular economic sector. However, the company's expansive package of business services for client companies makes it something far beyond an everyday real estate provider.

In addition to private offices, TechSpace offers common areas and amenities, all completely wired with T1 Internet and phone connections. Business services are divided into four main categories:

- 1) Human resources: Payroll services are offered in conjunction with ADP, the nation's leading payroll service provider. Companies also receive business insurance, group employee benefits, and organizational advisory services.
- 2) Recruiting services: This category includes resume solicitation, screening, and interviewing services.
- 3) Growth services: Consulting in architecture and design (using both in-house architects and external partners), evaluation and design of electrical/mechanical systems, construction manage



ment, shipping and moving services, and appraisal of security requirements.

4) Technology services: Administration, maintenance and monitoring of business sites, applications and databases; hardware and software procurement; co-location/hosting for Internet; application/technology consulting; and web development.

As a funding supplemental to these four main service categories, the company also offers seed money to selected clients through its venture capital arm, TechSpaceXChange. This fund was started in partnership with Safeguard Scientifics, which owns 70% equity in the fund (Mallick 2000d). Companies that do not receive funding through TechSpaceXChange are not expected to offer TechSpace any equity. However, for a client company that does well, TechSpace does reserve the right to invest in the tenant's *subsequent* venture round, up to a 10-percent stake (Healy 2001c).

TechSpace facilities operate on a fees-for-services basis, with tenants paying anywhere between \$750 and \$4000 a month for the fully loaded space. Rent is calculated for each workstation at roughly \$500 per person per month (*Boston Globe* 2001). Although this model is more expensive than standard office space rental, "for companies from out of town who have to move to New York quickly, the price tag is worth it" (Hughes 2000). Among the advantages tenants receive from using TechSpace offices are the elimination of long-term leases, costly security deposits, and other expensive start-up costs (*Business Wire* 2001a).

Despite the premium fees charged for office space, TechSpace has itself had some trouble in the past covering its own rent. In October 2001, the San Francisco facility was ordered by the Superior Court of California to pay Cannell Capital LLC, a former client, an amount of \$5000 plus \$27.00 in costs. Cannell had entered into a long-term occupancy at TechSpace in June 2001. According to J. Carlo Cannell:

"TechSpace was apparently shunting our monthly payments into its corporate kitty rather than paying the building owner... Only after

Cannell Capital LLC and other businesses were served by the property owner with papers notifying them that TechSpace had failed to pay the property owner \$76,804.00 in rent, did the conduct of TechSpace become evident. Rather than serving as an incubator, a nurturer of entrepreneurship, it would appear that at least in California, TechSpace behaved as an incinerator” (*Business Wire* 2002).

## Operating Companies

### CMGI (<http://cmgi.com>)

The origins of CMGI – one of the nation’s largest publicly traded incubators – can be traced back to 1968, when Glenn and Gail Matthews founded College Marketing Group to sell lists of college courses and faculty names to textbook publishers. The company set a new, Internet-related course when David Wetherell bought the firm in 1986. In 1994, “CMG Information Services” went public and launched its first venture fund (CMG @Ventures) the following year. Following successful investments in numerous Internet companies, including Lycos and Geocities, CMG caught the attention of Microsoft and Intel, who each took just under a 5% stake in the firm. The company’s third venture fund (@Ventures III) was its largest, and the first to accept outside investors. In 1998, the company changed its name to CMGI. It developed additional venture funds to accommodate different types of investments – including @Ventures B2B (to focus solely on business-to-business Internet companies), and @Ventures Technology Fund (focusing on web-enabling technologies). In September 2000, as a response to the “Internet bubble burst”, CMGI scaled back and reorganized into five lines of business, with holdings in: 1) e-business and fulfillment; 2) infrastructure and enabling technologies; 3) interactive marketing; 4) Internet professional services; 5) search and venture capital (Hoover’s Online 2002a). This restructuring included selling unspecified businesses, paring majority-owned operating companies (to 5-10 from 17), and merging three existing venture funds into one (Boston.internet.com 2000).

CMGI now calls itself a “leading diversified Internet operating and development company,” with interests in both B2C and B2B companies that span a range of vertical market segments. Its package of services distinguishes it from other holding companies and venture capital firms, clearly placing it in the business incubator category. Using a synergistic, EcoNet strategy, CMGI uses its operating companies to provide strategy, business development, technological infrastructure, marketing and advertising services for its portfolio companies. Portfolio companies at all

stages of development are funded by one of many “@Ventures” funds. Initial investments typically range between \$2 million and \$30 million (Mallick 2000c).

The company’s overall strategy can be separated into two business segments – 1) operating companies; and 2) its affiliated venture capital group. The operating companies are positioned to provide a more stable stream of revenues to counteract the inherent volatility of the venture capital arm. Companies in its @Ventures portfolio are given a long-term exit strategy (no “flipping” to market), and generally relinquish between 1% and 88% in equity to CMGI (Mallick 2000c).

## Operating Companies

### Divine InterVentures (<http://divine.com>)

Chicago-based Divine InterVentures was founded in May 1999 by software entrepreneur Andrew “Flip” Filipowski, who wanted to create a Midwestern Internet mecca. Filipowski sold his previous venture, Platinum Technology International Inc., to Computer Associates Inc. for \$3.5 billion, and began making acquisitions for Divine in October 1999. The Internet incubator initially targeted three categories of start-up investments: 1) infrastructure service providers for business-to-business e-commerce; 2) market makers hosting Internet exchanges; and 3) Internet companies that operate for-profit businesses with social, cultural or educational purposes. For its services, Divine took a 25% stake in each company.

During the first six months of operations, Divine InterVentures expanded at a rapid pace. When the company filed for an IPO in December 1999, it had stakes in 19 B2B e-commerce companies. An amended filing two months later showed that this number had grown to 43 Internet firms. By the time Divine made its final updated filing in April 2000, it had amassed interests in 52 companies (Graham 2000). The companies were organized into a synergistic arrangement that Filipowski referred to as an “Internet zaibatsu” – a reference to family-controlled corporate combines in Japan. Portfolio companies were expected to cooperate with each other and to buy many services from Divine, such as marketing, human resources, and public relations. Privately, several executives at the portfolio companies complained to the media about the cost and quality of Divine’s services, reporting that “the Soviet-style planned economy is stifling to more independent-minded executives” (Little 2000).

One of Divine’s initial companies was dotspot, an e-business accelerator launched in November 1999. During its first year of operations, dotspot subleased office space to more than 40 clients, each with between 8 and 12 workers. Dotspot clients were expected to provide three months’ rent upfront, ranging from \$750 to \$1000 per employee per month. In return, the clients received secure space with furniture and a

high-speed Internet connection. Additional services, including website development and hosting, human resource management, and real estate brokerage, were provided on a fees-for-services basis. Unique aspects to dotspot's facilities included on-site data servers (Roeder 2000).

Divine's four-month delay to IPO foreshadowed its upcoming demise as an incubator. In addition to switching underwriters, the company had a run-in with the Securities & Exchange Commission – prompted by a financial report released to the media that conflicted with Divine's own IPO documents. When the offering was finally completed in July 2000, the company raised \$128.6 million instead of the \$460 million it had hoped for. After selling shares in its IPO for \$9 each, the company saw its stock plunge to about \$3 in October 2000. To slow the company's burn rate, acquisitions and funding for additional start-ups were suspended, and in May 2000, 29 of the incubator's 89 workers were laid off. A less commonly cited drawback was Divine's 41-person board of directors, of which 33 were found to have potential conflicts of interest. One board member, for example, was also chairman and CEO of MarchFIRST Inc., an information technology firm that also funded e-commerce startups (Little 2000). Plans to build a 480,000 sq. foot incubator facility on 7 acres of Chicago's Goose Island (which were endorsed by Mayor Richard Daley through a \$14 million tax subsidy) were ultimately scrapped. In February 2001, the company put the Goose Island site on the market, listed alongside its dotspot subsidiary (Little 2000, Crain's 2001). During the same month, the company became a software roll-up, changing the name simply to "Divine, Inc." Emphasis on investment in Internet start-ups was dropped, and InterVentures became an early-stage investing arm with its portfolio cut back to eight companies.

Divine now calls itself an "extended enterprise company," helping companies connect with partners, customers and employees through a combination of professional services, software services, and managed services. Many resemble services offered by incubators, but none are geared specifically for start-ups. In its professional services package, Divine offers consulting in financial and operational performance, human resources and payroll services, branding and market development. The

company also offers numerous software packages to facilitate collaboration, website content management, customer interaction management, and information acquisition.

## Operating Companies

### Internet Capital Group (ICG) (<http://www.icg.com>)

Founded in March 1996, ICG is often considered CMGI's most significant competitor, with the distinct advantage of having Safeguard Scientifics as a partner. Safeguard holds a 15% equity stake in the company, whose business-to-business e-commerce partners are a potential source of customers for Safeguard's infrastructure partners (Mallick 2000d). In its own right, ICG is a publicly traded operating company owning stakes in a network of about 50 companies, broadly focused on software and service sectors. Two major industries constitute the majority of its portfolio: 1) market makers – intermediaries that use the internet as a platform to bring together buyers and sellers; 2) infrastructure service providers that sell software and other technological services to companies that want to transact on the internet. ICG invests in both vertical (one industry) and horizontal (numerous industries) market makers. Its infrastructure service providers offer consulting and strategic integration, software, and outsourced services (Mallick 2000a).

ICG evaluates over 1,500 business plans per month. Companies are selected that have domain expertise, strong management teams, and are willing to provide sizeable ownership interests and accept ICG's influence in developing strategy. Similar to other large, publicly traded incubators, ICG does not offer office space. Investments in portfolio companies are offered at numerous developmental stages, with average size of investment ranging between \$1 million and \$5 million. The company offers executive recruitment, marketing, financial advisory, business development support, strategic guidance, information technology services, and operational support. Companies are given a long-term exit strategy, with ICG taking an active role in building its client businesses and retaining a position after companies have been taken public. Funding and services are offered in return for between 3% and 75% equity (Mallick 2000a).

ICG's collaborative network of partner companies resembles an EcoNet that benefits not only ICG, but its counterpart, Safeguard. Taken



collectively, the portfolios of the two major investment players can be seen as a massive, bimodal network. In the 1<sup>st</sup> quarter of 2000, there were 105 intercompany relationships that entered into content, leads and/or revenue sharing agreements (Mallick 2000a).

In response to the market downturn for Internet technology, ICG adopted a consolidation strategy, merging dozens of companies (Sabga & Molineaux 2000). To facilitate these mergers, the company deployed a team of 20 acquisition professionals. These mergers were believed to result in: 1) positive value-adding synergies; 2) preventing emerging companies from becoming non-strategic assets (Mallick 2000b). When questioned in interview about the company's strategy, ICG spokesperson Michelle Strykowski said:

"The b-to-b market has evolved, and we've passed from the land grab phase into the operational excellence phase. Before we were extremely aggressive in acquiring and building companies. Now we're concentrating on building the companies we acquired" (Kurdek 2000b).

Of 80 companies in its portfolio at the time, ICG announced it would concentrate a majority of its resources on 15 that showed the greatest potential to create value. The remaining 65 startups stayed in the incubator's network; although some were targeted to receive capital, ICG became reluctant to take a lead role in these investments.

## Operating Companies

### **Raza Foundries (<http://www.razafoundries.com>)**

Calling itself a “metacompany,” Raza Foundries uses a unique incubation model that focuses solely on broadband networking and communications. This narrow, or “vertical” focus on communications technology distinguishes Raza Foundries from both incubators and venture capital firms. Client companies are typically invested in at the beginning of their life cycle. According to founder Atiq Raza, the popular comparison of incubating eggs into chickens does not accurately portray his company’s model: “It is rare for us to start with an egg. In most cases, we start with a chick – a full-fledged team that could have been funded by any VC” (Ryan 2000).

Unlike Cenetec, which incorporated elements of a VC model into its accelerator model after it was founded, Raza Foundries originated with characteristics of both. In return for 20 percent to 50 percent equity, client companies receive first-round funding, as well as funding for subsequent rounds with valuation determined by credible, unaffiliated investors (Ryan 2000, Landry 2000a). Similar Internet infrastructure businesses that are further along in their development are targeted for funding through closely affiliated venture funds (“Raza Venture Funds A and B”).

Like an incubator, the company offers its clients networking opportunities with associates in the business. Its most valuable services emerge directly from the company’s focus on broadband networking and the presence of personnel who are experts in the field (an on-site “virtual engineering team”). These services include assistance in product development, installation of engineering development computer aided design environments, management structure, and basic infrastructure. Raza Foundries also offers rapid production of silicon prototypes of client company products, with the help of an agreement with IBM (Kanellos 2000).

In May 2000, Raza outlined a four-stage process of incubation: 1) identifying a “compelling product”; 2) building critical mass (through

recruiting and strategic alliances); 3) creating a fast-track product development process; 4) maturing client companies to self-sufficiency (Landry 2000a). Client companies are also potential acquisitions for telecom giants like Cisco Systems, Nortel Networks, and Lucent Technologies. These companies are “increasingly looking beyond their research and development labs for new chip designs and other cutting-edge technologies. Instead of developing such components from scratch, they’re paying hundreds of millions of dollars for prerevenue chip startups” (Takahashi 2000).

## Operating Companies

### **Safeguard Scientifics, Inc. (<http://www.safeguard.com>)**

Safeguard Scientifics began in 1953 as the venture capital firm “Lancaster Company,” founded by Warren Musser and Frank Diamond. Like CMGI, the company made a turn toward high-tech investments in 1980, renaming itself Safeguard Scientifics (after an early investment in a company that made perforating check printers). Among its more successful investments during the 1980s were Novell (88% stake) and the cable shopping channel, QVC. In the 1990’s, Safeguard focused even more on high-tech companies and formed Internet Capital Group (see profile above) to develop Internet opportunities (Hoover’s Online 2002b).

Classifying itself as a technology operating company, Safeguard has diverse holdings in business and IT services, software and emerging technologies. Unlike a venture capital firm, the company does not maximize returns in a short time, but instead acts as a long-term equity participant and partner (offering a long-term exit strategy to portfolio companies). Each client company is assigned a team of experienced professionals in the areas of operations, business development, finance, and legal services. Among the operation and management services offered are:

- Management interface, with emphasis on establishing facilities and administrative processes
- Development of appropriate corporate, legal and financial structures
- Recruitment of an effective management team and experienced staffing for intensive projects
- Strategic assessment of tech market opportunities
- Design, development and commercialization of proprietary tech solutions
- Access to complementary technologies and strategic partnership with technology leaders
- Identification of the company’s strategic market position, including development and implementation of effective go-to-market branding, launch and marketing strategies

- Creation of relationships that provide initial reference customers, external marketing channels and growth through strategic partnerships, joint ventures or acquisitions

Initial investments are now made in later stages of development, usually in excess of \$5 million. In return, Safeguard takes an average equity stake of 34% in portfolio companies. Equity stakes by company type (as of 9/28/00) are shown in the Table below (Mallick 2000d). Safeguard currently holds direct investments in approximately 40 “partner” companies, including CompuCom Systems (~50% ownership), which provides Internet management products and services and whose sales account for about 90% of Safeguard’s revenues. Like CMGI, Safeguard is structured into two primary, interacting units: 1) operating companies; and 2) affiliated venture capital (private equity) funds.

A number of unique strategies differentiate Safeguard from other large, publicly shared incubators. First, Safeguard has itself funded other incubator/Internet-development companies. In addition to ICG (~15% of which is owned by Safeguard), the company acquired equity interest in Techspace (see profile above), an incubator for early and expansion-stage Internet companies. Together, Safeguard and Techspace created TechSpace Ventures to provide funding for promising start-ups. The relationship between the two companies is synergistic; Safeguard offers a full range of support services beyond what TechSpace can offer, while TechSpace attracts companies that meet needs in Safeguard’s partner network (*PR Newswire* 2000a).

Safeguard also features a “Fast Forward Program” that helps accelerate the development of companies both within *and outside* of the Safeguard network. The move to provide services to small- and medium-sized companies outside of the network was intended to introduce a new operating revenue stream. Many of these services are provided through Safeguard’s 100%-owned partner company, aligne, Inc., which is an information technology consulting company.

Finally, the Safeguard Subscription Program (SSP) enables Safeguard shareholders to participate in the IPOs of partner companies.

**Safeguard equity stakes in partner companies, as of 9/28/00**

<b>Company type</b>	<b>Number of companies</b>	<b>Equity range</b>	<b>Equity average</b>
Internet infrastructure	9	12% - 43%	31.1%
Communications	10	7% -66%	36.8%
E-services	11	7% - 100%	33.7%
Other tech	18	2% - 70%	31.9%

Source: Mallick 2000d

## Other Models

### Telecommunications Development Fund (<http://TDFund.com>)

The Telecommunications Development Fund (TDF) is a self-sustaining, private venture capital corporation (an “evergreen fund”) founded in 1996 as an outcome of the Telecommunications Act. This FCC legislation was designed to create open and fair competition within the telecommunications industry, including a clause mandating that any interest income from deposits for telecom spectrum licensing auctions must be invested in telecom technology. The TDF was established as a vehicle for this mandate, funded primarily by private financial institutions paying this interest, which is in turn used by the TDF to fund early-growth U.S.-based telecommunications companies. From 1996 to 1999, up-front deposits that all bidders were required to pay the FCC to participate in wireless spectrum auctions accrued \$25 million in interest (Tenorio 2000, Lazaroff 2002).

The company focuses on three primary environments for new technology: (1) Wireline voice and data communications; (2) Wireless voice and data communications; and (3) Casting, including traditional broadcast, cable, satellite and Internet. In addition to investing in developers for mobile enterprise applications, TDF looks at start-ups addressing network quality issues. TDF’s interests extend to companies working in the 2.5 G and 3<sup>rd</sup>-generation technology arenas (*Wireless Today* 2001). Equity investments range from \$375,000 to \$1 million per initial investment at the seed and first rounds of financing, with TDF taking 10% - 15% equity in portfolio companies. Companies generally enter into long-term relationships with TDF, with typical investments lasting from 3 to 6 years.

In addition, the company offers assistance in: (1) Identifying and recruiting key members of the management team; (2) Development of product, service, business, and management strategies; (3) Providing contacts and introducing companies to corporate and strategic partners; (4) Raising needed capital through the private and public markets; (5) Legal assistance; (6) Referrals to resources for information, training, or technical advice. The TDF website features an Equity Financing Course

that is publicly accessible, providing advice on topics (“lessons”) including: raising capital, angel investors, venture capital, common mistakes, and business plans. The website also features a nationwide database of business advisors and financial resources.

TDF has sponsored the “Springboard” training-and-pitch seminars for female entrepreneurs in Boston (2000) and Chicago (2001). These seminars were established to create accessible points of entry to equity markets for both women entrepreneurs and investors. Springboard 2001 in Chicago showcased thirty women-led businesses from a variety of e-commerce, technology, and life-science industries. Participants had the opportunity to present their business plans to nearly 300 of the Chicago area’s leading investors (Tenorio 2000, PR Newswire 2001). Through sponsoring Springboard, TDF’s focus is an attempt to “bridge the capital gap” that has historically prevented companies led by minorities and women, or those based in rural sections of the country, from obtaining venture funding. At the same time, TDF claims that ethnicity and gender isn’t the issue: “The issue is to find strong companies with innovative technologies” (Lazaroff 2002).



## Other Models

### **Verner, Lipfert, Bernhard, McPherson & Hand <sup>1</sup>** **(<http://piperrudnick.com>)**

While not technically an incubator, the Washington, D.C.-based law firm Verner Liipfert offers characteristic services to start-ups through its Internet Ventures Group. The firm was founded in 1960 by James M. Verner and Berl Bernhard, and boasted a staff of more than 100 professionals, including former Senate Majority leaders Bob Dole and George Mitchell. Clients include more than 100 of the Fortune 500 companies, as well as numerous small and mid-size companies, state, local and foreign governments, public agencies, trade associations, non-profit organizations, and individuals.

The firm's Internet Ventures Group integrates its legal, business development, and public relations expertise to formulate e-strategies for internet ventures. Clients are assisted in identifying, developing and realizing opportunities to increase their market value, attract financing and discover new business sources. Sector focus includes a broad range of dot-com companies in the business-to-business and business-to-consumer arenas, in addition to software companies and venture capital firms. Verner Liipfert's business development strategists help connect clients with strategic business partners, targeted customer communities and the most effective suppliers. The firm's public relations experts work with in-house communications departments of client companies and outside public relations agencies to create media opportunities that elevate clients' profiles – including prestigious speaking engagements and placements in such publications as *The Wall Street Journal*, *The New York Times*, *The Washington Post*, *The Washington Times*, *Fast Company*, and *Fortune*.

Services are also provided to start-up businesses through the firm's Technology and Intellectual Property practice area. Although not exclusively for start-ups (these services are also extended to large inter-

<sup>1</sup> The reader should note that Verner Liipfert merged with Piper Rudnick, LLC, on October 1, 2002, shortly after this report was written. It is not known at the present time whether or not the Internet Ventures Group continues to operate.

national companies), Verner Liipfert provides support in identification and strategic protection of intellectual property rights, development, licensing, and removal of regulatory barriers to market entry, contracts, and the manufacturing and distribution of hardware and software. The firm works with hardware, software, and service provider clients in more traditional business areas, including: business formation, merger, acquisition, finance (debt and equity), negotiation and drafting of agreements, government contracts, labor and employment issues, legislation and regulations, and international trade and transactions matters.

Internet Ventures Group director Marla Grossman said in interview that the best lawyers are also business development and public-relations counselors to their e-commerce clients: "A couple of years ago, lawyers focused on protecting their clients' reputation. Now we have to help enhance our clients' valuation" (Imperato 2000).

**CONTENTS**

<b>Cisco Systems .....</b>	<b>80</b>
<b>Intel Capital .....</b>	<b>86</b>
<b>Lucent Venture Partners .....</b>	<b>91</b>
<b>Agriculture, biotechnology, and pharmaceutical CVAs ....</b>	<b>93</b>
<b>Cargill eVentures .....</b>	<b>93</b>
<b>Eli Lilly &amp; Co. ....</b>	<b>97</b>
<b>Johnson &amp; Johnson Development Corporation .....</b>	<b>100</b>
<b>Merck Capital Ventures .....</b>	<b>104</b>

## Information technology CVAs

### Cisco Systems (<http://www.cisco.com>)

In addition to being one of the most influential businesses in its industry, Internet networking giant Cisco Systems also has a reputation for being among the top technology corporate VC's. By October 2001, Cisco had spent \$581.7 million in funding for 73 companies – with total venture expenses second only to Intel, which spent \$996.8 million on 211 companies (Dingan 2001). Unlike other companies that define clear boundaries between their corporate ventures and their R & D departments, Cisco practices an aggressive investment strategy that often deliberately leads to acquisition. “When you deal with us, you are dealing with Cisco’s technology,” said Mike Volpi, vice president of business development. “There are no artificial barriers; the deal is closely related to our product development” (Raik-Allen 1999).

Cisco’s venture funds are not set aside into a corporate venture arm or subsidiary, but are instead managed by the Cisco Systems Business Development Group. According to the company’s website, this branch is intended to actively supplement “internal development efforts with partnerships, minority investments, and acquisitions to offer customers a broad range of solutions in networking for the Internet” ([www.cisco.com](http://www.cisco.com)). Although Cisco emphasizes its commitment to strategic investment over financial gain, its financial performance during the year 2000 showed clear advantages for an aggressive investment strategy. While the company’s stock dropped 29%, the seven companies it funded that went public in 2000 were up an average of 82.2% from their offering prices as of year-end (La Monica 2001). For the 9 months preceding April 28, 2001, the company reported unaudited net gains from minority investments of \$190 million, compared with \$187 million during the same period ending in April 2000 (Rogoski 2001).

Cisco typically invests in companies that are in fast-growth or “tornado” markets, filling a customer need-driven niche. Although the company initially takes an equity stake (less than 20%) in portfolio companies, acquisition is a common outcome (Rogoski 2001). Characterized as

adopting a “buy, not build” strategy, Cisco’s rate of acquisitions has increased in recent years. In 1996, the company was making between six and eight acquisitions a year – a figure that rose to 18 acquisitions a year after 1999 (Scouras 1996, Kaplan 2001). Between 1993 and 1999, Cisco had acquired 40 companies (for a total of nearly \$20 billion), building its own top management team from the ranks of these acquisitions (Reinhardt 1999). The company’s success in maintaining this volume of acquisitions and mergers may be attributed to two practices: (1) diligent pre-acquisition screening on the “softer” issues, such as cultural fit; (2) a willingness to allow newly acquired companies to maintain their unique characteristics (Kaplan 2001).

Most of Cisco’s acquisitions were originally small companies, some barely more than research teams. Operating from the perspective that, in strategically buying a company, Cisco was “not just acquiring a product, but also its people,” the company experienced a dramatically reduced employee defection rate. While the datacom industry defection rate has averaged as high as 40%, at Cisco, employees of acquired companies were actually less likely to leave (7% per year) than other employees of Cisco (13%)(Shah 2000).

As with minority investments, Cisco’s acquisitions are generally responsive to developing markets, focused on upcoming technologies that have the potential to leverage its existing distribution network. In 1997, the company for the first time derived more revenue from non-router products than routers. The following year, it wedged into the voice-over IP market (technology that allows telephone and fax transmission over IP-based data networks) by acquiring companies like Precept Software, Summa Four, and Selsius. Cisco has also found its way into the encryption and security markets through acquisition of WheelGroup and Global Internet Software. In July 2001 the company acquired virtual private network (VPN) developer Allegro Systems Inc., in which it had already held a 40% equity stake. The \$181-million-deal contributed to Cisco’s existing security product line, which includes VPN gateways that help secure business transactions over the Internet by encrypting and decrypting web-based data. Of critical focus is the company’s move into the fiber-optic equipment market using the technologies of acquired companies

Skystone Systems, Pipelinks, and Granite Systems (Shah 2000, Cohen 2001).

To date, Cisco has invested in 78 companies. Regionally, 29% of investments are in California, 14% in Arizona, 14% in Colorado, and 14% in Massachusetts. Software companies represent 71% of Cisco's portfolio, followed by computers and electronics (14%) and network infrastructure (14%) (IPO.com 2002b).

## Information technology CVAs

### Dell Ventures (<http://www.dellventures.com>)

Founded in March 1999, Dell Ventures is a wholly owned strategic investment arm of Texas-based Dell, the leading worldwide direct computer systems company that rivals Intel. As a long-term investor, Dell Ventures targets later-stage technology companies that have the potential to contribute to Dell's product line and ability to anticipate and meet customer needs. Currently, three investment sectors are emphasized: (1) Server, storage and related I/O technologies; (2) Networking infrastructure and management; and (3) Enterprise software, security and services.

Partly using cash it had raised in debt securities in March 1998, Dell Ventures initially financed private start-ups in a move to "keep abreast of trends that might pose substantial risks." Early in 2000, the company announced it would expand its operations to include equity investments and incubation services such as consulting, pre-installation, Dell Auction, ISP, broadband and e-commerce portals. According to CFO Tom Meredith, the decision was part of a larger strategy to start incubation services in every market in which Dell was involved: "We're organizing relationships with our internal affiliates asking them to anoint talent, teammates if you will, that will be the liaison link into the various communities – China, Japan, the Asia Pacific including Australia and New Zealand and Europe" (The Age 2000). The company did eventually establish a European unit – Dell Ventures Europe – intended to focus primarily on wireless and mobile Internet technologies (Bushrod 2000).

By the end of March 2000, the venture arm had invested in excess of \$700 million in more than 90 companies, focusing on B2B and B2C Internet infrastructure businesses (Business Wire 2000b). The company had unrealized gains of more than \$2 billion from its investments in startups – a return on invested capital of 281 percent – and 11 portfolio companies had plans to go public (Macaluso 2000). All investments were in companies that offered strategic partnerships, using Dell hardware to run their networks, purchasing Dell PCs, and in exchange receiving access to one of the most powerful distribution systems in the world. In

interview with Red Herring, company founder Michael Dell expressed his commitment to the belief that companies are best left independent with strong affiliations, rather than being folded into a massive bureaucratic infrastructure. For this reason, Dell itself is divided into 10 to 15 independent businesses, each run by a general manager and operated autonomously with strong synergistic ties (Perkins 2000).

In the short time between March and June 2000, the venture arm's funding strategy seemingly changed – from investing in start-ups to investing almost exclusively in later-stage investments. With a “war chest” of \$7 billion available for funding, the company showed no signs of slowing down its investment pace, and announced plans to push into Europe and Israel. Yet, the company was also experiencing its first failures. One of its portfolio companies, the “overhyped” Digital Entertainment Network, pulled its IPO and went out of business in May 2000. The strategic, “market-cornering” character of Dell's investments had not changed, however. According to Adam Dell, general partner of Impact Venture Partners and Michael Dell's younger brother, “Dell wants to sell PCs to everybody on the planet, so it invests in companies that help extend the PC platform.” For example, Dell invested in GoAmerica (the only deal in which Impact was listed as a co-investor with Dell Ventures), which resells the Blackberry wireless handheld made by Research in Motion, to expand the base of email users and the volume of email (Landry 2000b).

To complement its venture arm for ensuring captive markets for its PCs, Dell introduced its VC Direct division in September 2000. This branch of the company was founded to team with venture capital firms to provide their portfolio companies with Dell technologies, Web hosting and IT services – all at discounted rates. In this way, start-up portfolio companies of *other* VC firms would also use Dell's servers, PCs and consultants, with the expectation that at least some of these fledgling companies would take off. The company placed a \$1 billion management assets minimum for VC firms to participate. Kevin Knox, research director at Gartner Group Inc., considered the move as shrewd. “If one of these start-ups does take off, it could mean literally thousands upon thousands of servers sold for Dell” (Clark 2000).



Dell's strategy has been considered similar to that of its largest competitor, Intel. Matthew Cowan, a general VC partner at Bowman Capital, expressed his opinion that both Dell and Intel are more like traditional VCs than other corporate VCs, because they both make speedy investment decisions. While less entrepreneurial, more bureaucratic companies take up to six months to decide whether they'll invest, Dell often finalizes deals within a few weeks (Landry 2000b). Investments are made directly against Dell's balance sheet, which in December 2000 ran a cash surplus ranging from \$7 billion to \$8 billion. Because of this, the venture arm does not have to set aside or commit any certain amount of funds in advance for venture investment, and there is no stated limit to how much can be invested in any one company or transaction. Average investment size is between \$8 million and \$10 million, with a \$3 million to \$5 million minimum investment. Many of the deals in which Dell Ventures has invested come to it through the venture capital and investment banking communities (Bushrod 2000, Gordon 2001).

Dell Ventures offers a long-term relationship with its portfolio companies, continuing to work with them after initial funding to improve the businesses and discover new ways of leveraging with them. In return for its money and distribution help, Dell itself often gains access to new markets, such as education. One example is Campus Pipeline, which has a revenue-sharing agreement with Dell to sell servers to the schools that Campus Pipeline's sales force works with. Dell has also invested in educational software company Blackboard, whose software is now bundled with Dell's servers for many educational customers (Landry 2000b).

To date, the venture arm has made 96 investments, ranging from \$3 million to \$10 million, with 50% in the consumer sector and 50% in the software sector. Regionally, 50% of investments are based in California, while the remaining 50% are located in Texas (IPO.com 2002d).

## Information technology CVAs

### Intel Capital (<http://www.intel/capital/index.htm>)

Founded in the early 1990's, the financing program of Santa Clara, California-based Intel originated as a way to enhance the chip giant's ability to deliver products to its customers. Initially, Intel invested in only a few companies whose products and services would help fill the gap in their product line, capabilities and capacity. Now, having invested in over 470 companies with \$5.8 billion in capital under management, Intel Capital is considered a worldwide strategic investor. The program focuses on making equity investments and acquisitions to grow the Internet economy, including Internet infrastructure, content and services in support of Intel's strategic interests. Regionally, 48% of investments are in California-based companies, 4% in Arizona, and 4% in British Columbia. Non-U.S. investments account for 22% of Intel Capital's portfolio. The company's most significant investment sector is software (57% of companies), followed by network infrastructure (22%), computers and electronics (17%), and consumer-oriented sectors (4%) (IPO.com 2002a).

Although the venture arm invests in companies at numerous stages – including seed, early, mid-, later, and expansion stages – its portfolio generally consists of private companies. Intel contributes a portion of the funds required to bring its portfolio companies to successful IPOs or acquisitions, usually in concert with other venture capital funds. Based on the rationale that Intel is, after all, a technology company, its venture capital arm rarely takes board seats in start-ups and does not refer start-ups to CFOs. According to Robert Manetta, a spokesman for Intel Capital, those are responsibilities for the traditional VCs that Intel works alongside with (Neel 2000). To support the long-term success of its companies, Intel Capital is committed to delivering “Value Beyond Equity” through the extension of multiple services and benefits. These include:

- 1) Strategic relationships with other sources of financing;
- 2) Insight into future trends using Intel Architecture roadmaps;

- 3) Technological assistance;
- 4) Access to Intel's worldwide portfolio infrastructure;
- 5) Higher visibility among customers and suppliers;
- 6) Events and customer introductions (industry shows, work shops and conferences);
- 7) Online consulting on a variety of technology and operational topics, manufacturing and engineering support;
- 8) Employee and management training in market research, procurement and government relations issues;
- 9) Access to Intel templates, presentations, policies, training modules, market research;
- 10) Access to discounts provided by Intel and other third party suppliers and vendors;
- 11) Access to special offers from other portfolio companies.

Intel's decision to establish a large venture arm may have been a retroactive response to a decrease in growth rates within the PC business, and particularly, the development of sub-\$1000 "Web PCs" with low-end processors that threatened to erode the company's legendary 50 percent gross margins. With the Internet economy endangering Intel's core business, a new strategy emerged for positioning the company as the primary silicon supplier for networking and communications – expanding Intel's niche to include cell phones, routers, and high-end Web servers.

In addition to acquiring new technology and product lines, Intel's strategy includes using venture capital to "lock up" customers. For example, after Illinois-based software start-up Visual Insights received less

than \$10 million from Intel Capital, its corporate customers were required to buy Intel-powered servers in order to use its e-commerce applications. Through this relationship, success for Visual Insights means not only a healthy investment return for Intel, but a new sales revenue stream that might have otherwise gone to a competitor such as Sun Microsystems. Another example is LaunchMedia, a music website whose streaming audio and video offerings require a considerable amount of bandwidth and processing power in order to achieve anything resembling television- or radio-quality reception. Intel's decision to invest in LaunchMedia was based not on high return potential (the company was, after all, a tiny startup that "would not make or break" Intel's year), but on the capacity for LaunchMedia to create demand for Intel's newer production line, which is far more capable of dealing with LaunchMedia's broadband requirements.

"Imagine if you're in a store, buying a computer, and you're comparing a Pentium II and a Pentium III," explained former Intel Capital executive Matthew Cowan. "Intel wants to make sure there are at least ten good reasons for the consumer to purchase the Pentium III." (Birger 2000).

Intel Capital is organized into two funds, each with specific mandates. Starting off at \$200 million, the Intel Communications fund invests in companies developing hardware and software that complement either Intel's CT Media platform, an operating system for voice-recognition software and other computer telephony applications, or Intel's Internet Exchange (IX) Architecture, a set of chips and connection standards that link hardware on telecommunications networks. The second fund, Intel 64 (originally valued at \$250 million), invests only in companies that develop software applications optimized for high-end Web servers that are powered by Intel's 64-bit Itanium processor. Intel usually invites outside investors to participate in a deal, and the Intel 64 fund has included some of the largest systems manufacturers as co-investors, including Compaq Computer, Dell Computer, and Hewlett-Packard. The inclusion of computer manufacturers was clearly strategic, since these companies now have a vested interest in using Itanium processors and promoting the applications that run on them (Birger 2000).

High growth and accumulation rates are characteristic of Intel Capital's strategy. Between May 9 and June 5, 2000, the Intel 64 fund invested in almost one new company every day (Moltzen 2000). Early in 2001, the company announced it would meet previous investment levels, despite a less amenable forecast for venture capital returns. A 59.4% return rate for venture capital investments in the fourth quarter of 1999 dropped to 6.4% in the third quarter of 2000. According to research firm Venture Economics, this drop-off was caused by turbulent public markets, a weak market for e-commerce IPOs, and venture capital firms spending more time with existing portfolio companies (Loftus 2001). In response to the market downturn, VC investments by corporations fell 90% during the first half of 2001. Intel Capital pushed on regardless, primarily because its venture capital is not intended to make money (Henry 2001).

In November 2001, Intel Capital was reported as being "the most active venture capitalist in the world, plowing more money into more companies each year than any corporate or private investor." According to Les Vadasz, executive vice-president and head of Intel Capital, the venture arm's current focus is on "hard deliverables" – the core technologies that are needed to take computing to the next level. In commitment to this mission, the company's largest number of investments are in communications technologies such as optical networking, wireless local area networks and network processing. In addition, the company is backing companies developing peer-to-peer computing technology, microelectrical mechanical devices and Web services (Sickinger 2001).

Intel's current mandate for international investment is similar. Claude M. Leglise, director of Intel Corp.'s Worldwide Geographies Sector, reported that investments are intended to grow Intel's presence in four business areas: (1) PC and laptop; (2) Servers; (3) Wireless or mobile space; (4) Networking. By May 2002, Intel Capital's investments spanned about 25 countries, including the U.K., Israel, India, China, Brazil, Eastern Europe, and Mexico. Since the inception of Intel's venture arm, international investments have continued to grow. In 1998, the company was investing 5% outside the U.S. In 2001, this figure had increased to 45%, with 25% of investments in Asia (Srinivas 2002).

Aside from funding, Leglise said Intel Capital focuses on three important contributions for start-ups: (1) Provision of technology, either hardware or software; (2) Organization of forums to introduce partners to others and help them market their products and technologies; and (3) Management techniques. The company takes no more than 19.9% equity in portfolio companies, largely to avoid the consolidation of accounts required under U.S. accounting laws when stakes exceed 20%. Exit strategies are similar to those of traditional VC investments, with start-ups being taken to merger, acquisition, or IPO within 7 or 8 years. Leglise claims that once a portfolio company goes public, Intel Capital's role is over. "We might have a great commercial relationship, which could last much longer, but a financial relationship is not necessary." Over the course of ten years, the venture arm has invested in 1000 firms, with half of them successfully exiting. Intel Capital's investment failure rate is about 10%, which compares to an industry standard of 18% (Srinivas 2002).

## Information technology CVAs

### Lucent Venture Partners

(<http://www.lucent.com/press/0298/980128.cob.html>)

The corporate venture arm of communications giant Lucent Technologies Inc. was launched in February 1998 to seek investments in emerging start-ups that specialize in data networking, semiconductors and communications software. Aside from financing a small number of companies through other Lucent business units, the move represented Lucent's first formal venture capital effort. With an initial infusion of \$100 million from its parent company, Lucent Venture Partners (LVP) was positioned to leverage investments into Lucent's existing operations through the formation of joint marketing agreements, product development efforts and possible acquisitions. As with many corporate venture groups, the company sought co-investment opportunities with other venture capital firms (Fineberg 1998). To allay fears that intellectual property could be stolen, LVP made a point of keeping its invested startup technologies separate from the parent company's research and development labs (Raik-Allen 1999).

Lucent finished distributing the \$100 million fund among 22 startups in December 1999. Within this time, one portfolio company – data-storage producer ConvergeNet Technologies – had been acquired by Dell Computer for \$340 million. A second successful exit occurred for Mainspring, an e-commerce consulting firm, which made IPO in June 2000. Mainspring was subsequently acquired by IBM in 2001 (DeBellis 2000, Hoover's Online 2002b).

In March 2000, LVP established a second fund of \$150 million that also targeted start-ups in the communications sector. Specifically, the second fund invested in optical, data, and wireless networking products, software and semiconductors for communications, computer and Internet consulting services, and business-to-business electronic commerce. Continuing to make early-stage investments was considered by the fund's president, John Hanley, as a strategy for enhancing Lucent's existing

goals and product lines. The second fund was intended to back about 25 companies, with initial investments ranging from \$2 million to \$3 million (DeBellis 2000).

The following year, Lucent found itself under severe financial pressure and sought ways to raise enough cash to meet creditors' expectations. The company's stock price, which had once soared as high as \$45, fell dramatically to an all-time-low of \$5.30 in June 2001. In response, Lucent began selling off its non-essential assets, auctioning a portfolio of private equity investments from its \$45 billion pension fund. The company also considered selling its portfolios in the LVP venture arm and in its incubator, the New Ventures Group (see profile in section IIC, Corporate-sponsored Incubators, below). Given the drop in valuations in the telecom and Internet sectors, the value of both venture capital units was estimated to be as little as \$50 million to \$100 million – a decline in value by as much as 95%. Yet, in August 2001 when reports of headcount reductions were at their height, LVP continued to actively pursue deals. Since June of that year, the venture arm had closed four new investments, and had either completed or committed to ten deals (Fugazy 2001a, Tenorio and Carlsen 2001).

While LVP continued to remain in business, Lucent limited its activities early in 2002, citing an effort to focus resources on internal developments. Overall, the group's funds had backed 91 start-ups, many of which continue to maintain strategic partnerships with Lucent. However, at this time, LVP is no longer pursuing new investments. Regionally, 40% of the venture arm's portfolio is California-based, with 20% in Georgia, 20% in Texas, and 20% in Washington state. The network infrastructure sector represents 60% of portfolio companies, while 20% are network service providers, and 20% are software companies (IPO.com 2002g).



## Agriculture, biotechnology, and pharmaceutical CVAs

### Cargill eVentures (<http://www.cargilleventures.com>)

Agribusiness giant Cargill Inc., the largest privately held corporation in the United States, established its eVentures arm in October 1999. Cargill, which has been in business since 1865, made the decision to start a venture arm after realizing that the Internet was undermining some of its traditional sources of advantage – namely, early and proprietary access to global market information (Olofson 2001). The venture arm's mission is to search out, invest in and nurture (through managerial and administrative support) promising Internet and technology startups. Driving this mission is Cargill's intent to build long-term viable businesses that tap into disruptive technologies, bringing new ideas and technologies into the company's decidedly old-economy businesses of agriculture, food, metals and minerals, and transportation. Employing more than 20 people in offices in Minneapolis, Silicon Valley (San Mateo, CA), London, and Singapore, eVentures had by November 2001 invested in seven B2B marketplaces that roughly paralleled Cargill's business sectors (Moore 2001). The venture arm invests in early stage technology companies that enable global commerce, innovation and efficiencies across Cargill's supply chains. This includes companies in three key areas – infrastructure software, enterprise applications and services, and eCommerce.

The company's ventures in e-commerce have received the most media attention, acting as strategic investments in many of Cargill's numerous sector emphases. Three elements have characterized Cargill's e-commerce strategy in the industrial oils and lubricants sector: 1) an informational website; 2) extranets; and 3) participation in online B2B exchanges. The website, [www.techoils.cargill.com](http://www.techoils.cargill.com), was launched to provide product information for its industrial oils. Extranet websites were also established, on which customers could place and track orders and obtain industry news (Markarian 2000).

In May 2000, eVentures persuaded chemical giant Dupont and Cenex Harvest States, a producer-to-consumer cooperative system, to join Cargill's investment in e-commerce start-up Rooster.com. The online

marketplace was established for farmers to sell their products and to buy fertilizer, crop-protection products and other farm supplies and equipment. Along with co-investor Crosspoint Ventures Partners, eVentures also helped fund e-commerce marketplace Novopoint.com, meant to facilitate B2B transactions for food and beverage manufacturers and their suppliers (Markarian 2000, Moore 2001). A third e-commerce investment, LevelSeas, was conceived by Cargill and co-founded with BP and Shell to pioneer collaborative chartering and management of oceangoing vessels for global shipping (Mason and Rohner 2002).

Within the software industry, eVentures invested in the Series C round of DemandTec, whose Demand Based Management software forecasts consumer demand with high accuracy, helping retailers and manufacturers predictably and consistently increase margins, revenues, and price image. The investment was clearly strategic for Cargill, which considered DemandTec as a source of powerful advantage for its many customers in retail and packaged goods (PR Newswire 2001).

In addition to funding, Cargill offers knowledge of core business practices such as trading, commodity processing, logistics, international business operations, global workforce management and risk management to validate business concepts and offer invaluable counsel. After a deal is initiated, each startup is visited by Cargill and other eVentures employees for a 60-day “barn-raising” period during which the startup receives help with tasks such as human resources and accounting.

Executives from the founding investors also work on locating a high-end management team for the startup. Following a barn-raising period, eVentures often sets up advisory boards or designates personal advisers to help new companies. Rooster.com, for example, built what it called a founders’ operating committee (FOC), made up of businesspeople who represented the initial investors. FOC members from Cargill helped Rooster gain access to business units that would ultimately become customers, such as the Animal Nutrition group. Ben Arndt, Rooster’s former marketing director, reported, “The value of the FOC is the access it provides to key decision makers within its own organizations to help us confirm which new products and functionality to develop, and

which ones we should enhance.” (Moore 2001). Cargill eVentures maintains its active involvement through a board seat or observer status on each of its ventures’ boards, and also organizes “chief officer”-level roundtables across its portfolio to enable executives to share ideas and best practices (Mason and Rohner 2002).

Multiple sources of return for value can be found in Cargill’s service strategy:

- 1) An entrepreneur-in-residence (EIR) program for providing business planning and strategy assistance;
- 2) Expert advice and counsel on market intelligence, prospects, and portfolio companies;
- 3) Direct aid in developing e-business strategy and partnering models;
- 4) Centralized review of all new technology-focused business plans and proposals; and
- 5) Early testing and pilots (Mason and Rohner 2002)

Cargill emphasizes independence for its investments, reluctant to treat them as corporate properties. Portfolio companies make their own decisions on issues ranging from hiring to further fund-raising. This can have both positive and negative implications for the startups. In December 2001, Rooster.com ceased operations, citing its inability to secure additional financing from its investors. According to Cargill spokesperson Bill Brady, the B2B site was not meeting revenue targets. The marketplace failed to match initial expectations largely because agriculture was slow to adopt e-commerce as an improvement over traditional transactions. A Department of Agriculture survey reported that U.S. farmers bought \$665 million worth of agricultural products over the Internet in 2000 – a figure that represented less than one-half of 1 percent of the \$200 billion spent annually. The same survey suggested that farmers were less likely to buy

over the Internet than the general population, even though more than half of all farmers had Internet access (Wieffering 2001).

To date, eVentures has invested in more than a dozen new businesses. The Silicon Valley office focuses on networking with entrepreneurs, venture capitalists, and other technology companies, while the Minneapolis office maintains links with the company and networks with Midwestern VCs and entrepreneurs. Although eVentures is wholly owned by Cargill and treated as a business unit, it has its own governance and compensation structure that is distinct within the parent company. The eVentures team is guided by its own rigorous investment standards and stage-gate systems, as well as a small “board” of four, comprised of handpicked corporate officers and e-business leaders, to provide oversight (Mason and Rohner 2002).

## Agriculture, biotechnology, and pharmaceutical CVAs

**Eli Lilly & Co. (<http://www.e.lilly.com> and  
<http://www.lillybioventures.com>)**

Since September 2001, growing concerns about potential bioterrorist threats have stimulated an increase in research-based biotech and healthcare sector investment. Many venture capitalists who have seen their previously high returns in the Internet and IT sectors wane are redirecting their funds into the biotech industry. During the first two quarters of 2001, 15.8% of all VC investments went into the biotech and healthcare sectors, representing a considerable rise from one year ago, when just 8.5% of VC investments went to the industry. To remain competitive, pharmaceutical and biotech corporations have also joined the game – among them, Eli Lilly, a leading innovation-driven pharmaceutical company based in Indianapolis (Stein 2001b).

For decades, Eli Lilly has funded business partnerships from its general fund, amounting to 120 different collaborators (Hamilton 2002). More recently, to secure strategic positions in both health-related e-business and biotechnology research endeavors, Eli Lilly launched not one, but two venture capital funds. The first, e.Lilly, was established in the fourth quarter of 2000 with an initial fund of \$50 million. Its purpose is to back companies developing e-business solutions for managing the risk associated with research and development, increasing the productivity of research, reducing the cost of clinical trials and developing new ways to connect with customers of Eli Lilly. All potential investments are strategic, with the intent of integrating a portfolio company's technology into Eli Lilly's operations or building up a business model that mutually benefits both Eli Lilly and the portfolio company. Overall, e.Lilly is expected to invest in approximately 15 to 20 start-ups, with a typical investment of \$3 million. Although e.Lilly is an early investor, the fund avoids angel and seed-rounds because of high potential risk. Depending on the fund's success (based on an annual review), it is expected to receive additional capital commitments from Eli Lilly, as well as investments from outside limited partners (Christopher 2001a).

In June 2001, the company launched its first e-business venture, InnoCentive LLC, a wholly-owned enterprise funded by an undisclosed investment by e.Lilly. The intent of InnoCentive is to use Internet technology and media to create and enhance open-source scientific research and development. Posted on its website are unique, scientific problems or challenges with cash incentives offered to researchers who can competitively provide innovative solutions. InnoCentive is governed by a board of directors and supported by an investment committee, both of which are drawn from Eli Lilly and Company. In addition to receiving funding from e.Lilly, InnoCentive had the advantage of being initially housed in e.Lilly's Indianapolis incubator facility (*Business Wire* 2001c).

Eli Lilly's second fund, the research-focused BioVentures group, was founded in late September 2001. The launch of Lilly BioVentures followed one month after the company's most significant revenue contributor – Prozac – lost its lucrative patent protection, resulting in a “serious decimation of Lilly's hold on the market” (Hoover's Online 2002a). The \$75 million fund targets early-stage biotech companies, with a goal of funding 15 to 20 companies over the next two years. According to the fund's managing director, Pawel Fludzinski, its primary focus will encompass enabling technologies related to bioinformatics and proteomics as well as horizon technologies that may not impact Eli Lilly's business for five to ten years. This would include new developments in nanotechnology, stem cell research and tissue regeneration. The fund expects to invest from \$2 million to \$5 million in each company, taking stakes of less than 20% over two financing rounds. Although Lilly BioVentures will initially rely on internal counsel, it may call on outside legal advisers as deal flow picks up. Investment opportunities come from three sources: (1) the Lilly BioVentures website, which invites entrepreneurs to submit business plans; (2) Eli Lilly's internal network, which employs 7,000 scientists worldwide; and (3) the company's ties with traditional VC firms (Goncharoff 2001).

Specifically, Lilly BioVentures makes initial investments in companies developing: 1) New or improved platform technologies aimed at improving and accelerating drug discovery and development; 2) Emerging

or novel technologies in the biotech or biopharmaceutical fields. In addition to capital, the venture arm offers scientific advice to portfolio companies, which have access to expertise from a panel of four scientific advisers who also work in other departments at Lilly (Business Wire 2001d, Lieber 2001).

Since it opened for business, the BioVentures fund has received more than 400 proposals from potential partner innovators. Patience and due diligence have been the preferred tactic for the venture fund, which has to date invested in only one company – Xenoport, Inc., a Santa Clara, California-based biopharmaceutical company. Business plans are screened, first to determine whether an innovation aligns with one of 16 defined areas of scientific interest. Portfolio companies that are successful are given a number of exit options, including collaboration, licensing, or acquisition by Eli Lilly (Hamilton 2002, IPO.com 2002e). The e.Lilly venture fund has been in operation longer, and has invested in three companies in addition to InnoCentive – Phase Forward Incorporated, Healinx Corp., and 1747, all Massachusetts-based medical/software sector companies (IPO.com 2002f).

## Agriculture, biotechnology, and pharmaceutical CVAs

### Johnson & Johnson Development Corporation (<http://www.jnj.com>)

The investment arm of Johnson & Johnson is the oldest corporate VC group in the healthcare industry, established in 1973 as an independent company within the J&J “family” of more than 180 operating companies. Johnson & Johnson Development Corporation (JJDC) makes minority equity investments in healthcare technology startups and young, publicly traded companies whose products have potential long-term strategic interest to J&J. Since its inception, the New Jersey-based venture arm has invested in roughly 500 companies worldwide. Branch offices are located in California, Japan, Israel, and the U.K. Johnson & Johnson Development Capital Ltd., the European arm, was founded in 1997 (IPO.com 2002c).

A consistent strategy can be seen in the majority of JJDC’s investments: The venture arm provides equity funding and product licensing fees for startup companies that have already established partnerships with one or more of Johnson & Johnson’s other subsidiaries. Examples of deals over the past six years include:

- Protein Polymer Technologies, Inc (PPTI). This development stage biomaterials company entered into collaboration with Ethicon, Inc., a J&J subsidiary, for jointly developing and commercializing tissue adhesives and sealants for wound closure. Equity investments of more than \$3 million were initially provided by JJDC, with additional funding provided in December 1996. At the time of follow-up funding, PPTI estimated that the venture arm’s total contribution would be approximately \$11 million in license fees, R & D and milestone payments, assuming it achieved final FDA product approval (*PR Newswire* 1996).
- Specialized Health Products International, Inc. (SHPI). In January 1998, JJDC made a private placement equity investment of \$2 million in this company, which develops safety health care products that



minimize the risk of accidental needlesticks. The investment was made in conjunction with a licensing agreement SHPI had established with Johnson & Johnson Medical Inc., supporting J&J's interest in expanding its position in the safety medical products area (*Business Wire* 1998a).

- Ergo Science Corporation. Ergo Science is a biopharmaceutical company that develops novel treatments for metabolic and immune system disorders such as diabetes, obesity, and cancer. In February 1998, it entered into a worldwide collaboration with two J&J subsidiaries, The R.W. Johnson Pharmaceutical Research Institute (PRI) and Ortho-McNeil Pharmaceutical, Inc., to develop and commercialize its lead product, ERGOSET (a tablet for treating Type 2 diabetes), as well as other potential products for the same indication. For its U.S. operations, Ergo Science agreed to share equally in both the costs of developing the product and in any resulting profits. Outside the U.S., it would receive a royalty on net trade sales of collaboration products. Initial payments to Ergo Science included a \$10 million license fee and a \$10 million equity investment in common stock by JJDC. The partner company was also expected to receive \$20 million in milestone payments upon receipt of FDA marketing clearance. Subject to regulatory clearance, Ortho-McNeil's role was to market all collaboration products in the U.S. Another J&J subsidiary, Janssen-Cilag, agreed to market these products outside the U.S. (*Business Wire* 1998b).

- BioCryst Pharmaceuticals, Inc. BioCryst's unique structure-based approach to drug design, integrating advanced biology, biophysics and medicinal chemistry, has proven valuable for the development of products to treat and prevent viral influenza. Like Ergo Science, BioCryst entered into a partnership with J&J subsidiaries PRI and Ortho-McNeil to develop and market these products – giving Johnson & Johnson exclusive worldwide rights to its proprietary influenza neuraminidase inhibitors and its lead product candidates. In return, BioCryst received \$6 million in cash up front, and was scheduled in September 1998 to receive an additional \$6 million in common stock equity from JJDC. The agreement included the potential for further undisclosed cash payments upon achievement of specified developmental and regulatory milestones. Unlike the J&J's agreement with Ergo Science (which specified equal sharing of

development costs), its deal with BioCryst specified that PRI would be responsible for research and development of the compounds, including expenses. Again, Ortho-McNeil's role was to market all products passing regulatory clearance in the U.S., with Janssen-Cilag and other J&J companies marketing products outside the U.S. According to Charles E. Bugg, Chairman and CEO of BioCryst, "Johnson & Johnson is an ideal partner to facilitate the rapid development of this program given their strong commitment to new products, experience in compound development and global leadership position in healthcare." (*Business Wire* 1998c).

- Neose Technologies. In January 1999, JJDC announced it would invest \$4 million in equity in Neose Technologies – an emerging company focused on the discovery, development and commercialization of complex carbohydrates for nutritional, pharmaceutical, consumer, and industrial uses. The investment was part of an expansion of Neose's joint development project with J&J subsidiary McNeil Specialty Products Company. Under the agreement, McNeil would provide substantially all of the development and capital costs of the project. Neose Chairman and CEO Stephen Roth was pleased with the venture because of the "large number of products" both companies could manufacture in the future (*Business Wire* 1999).

Aside from directly funding pharmaceutical, biotech, and medical device companies, JJDC also invested in Forge Medical Ventures, a California-based medical technology incubator. During its single year of operation, Forge secured funding and provided active assistance for early-stage companies headed by physicians, engineers and other inventors in the biotechnology and medical devices industries. Venture capital was available through the incubator's clients through JJDC, and two other leading venture capital groups – Enterprise Partners and Mayfield Fund – with investment funds ranging from \$100,000 to \$10 million. For each portfolio company, Forge assisted in finding and recruiting a top management team, preparing a compelling business plan, completing proof of concept, negotiating licensing or other agreements, and establishing a broad patent position. The incubator's initial plan was to work with three or fewer companies a year, recruited through technology transfer offices at West Coast universities, biotech labs and physician offices (*Business*

Wire 1997, McClain 1998). After one year of operation, the incubator had raised one company – Elitra Pharmaceuticals, a genomics technology company committed to discovery of antimicrobial drugs. Citing the “internet craze” and lack of financial commitment from its three original investors, Forge closed its doors in 1998. Mayfield and Enterprise Partners had for the most part stopped investing in life sciences, while JJDC moved its focus to healthcare internet and later stage opportunities (Coats 2002).

Regionally, 60% of the JJDC’s investments are California-based, 10% are in Colorado, 10% in Pennsylvania, and 10% in Virginia. Portfolio companies in the medical sector represent 70% of investments, while biotech companies represent 30% of investments. Recent deals in which JJDC was the lead investor include a \$15 million undisclosed financing round for cancer drug company FeRx Incorporated in June 2002, and an April 2002 round for Medlyte Diagnostics, Inc., a biotech company that develops diagnostics and therapeutics for heart disease, for \$3.5 million (IPO.com 2002c). Deviating from its previous strategy, of the nearly 30 deals with public biotechs that JJDC has signed in the last two years, none has had an equity component (Van Brunt 2002).

## Agriculture, biotechnology, and pharmaceutical CVAs

### Merck Capital Ventures (<http://www.merckcapitalventures.com>)

The venture arm of pharmaceutical vendor Merck & Co. was formed in December 2000 as a means to expand Merck's services to doctors, patients, and pharmacists through the Internet. Funded by \$100 million from its parent company, Merck Capital Ventures invests in emerging companies that are focused on marketing and distributing pharmaceuticals and related health care services. Investments complement the operations of Merck-Medco, an online pharmacy cited in December 2000 as the largest in the world. Despite the "severe beating" that online healthcare stocks such as WebMD, MedicaLogic, and Drkoop.com took during 2000, Merck's investment strategy was praised by IDC analyst Jim Williamson as a promising adjunct to the Merck-Medco online pharmacy. "An increasing number of prescriptions are likely to be filled online, and many doctors are expected to start sending prescriptions directly to pharmacies via wireless devices. That would significantly change the pharmaceutical business" (Meyer 2000, *Computerworld* 2000).

With technological advances in drug marketing, distribution, and clinical trials on the rise, Merck's decision is both forward-looking and unique. The firm plans to invest in companies with technologies that accelerate distribution processes, as well as companies that recruit patients for clinical trials or help physicians record and transmit patient information. This differs from the typical investment strategy adopted by other pharmaceutical corporations – namely, taking stakes in smaller companies' drug research endeavors (Meyer 2000). Merck Capital Ventures is joined by other venture arms of large pharmaceuticals in shifting away from research investment. The transition is explained by industry insiders as a way of keeping "core decisions about science" within internal R&D departments (Stein 2001a).

For a large corporation like Merck, a \$100 million fund is considered a small, low-risk investment. Potential failure of its investments will likely have minimal impact on the company's earnings (Meyer 2000). The firm generally invests as part of a syndicate in the range of \$3 million to

\$8 million per portfolio company, with preference for mid-to-late- over early-stage rounds (Fellers 2001). Typically, portfolio companies will have ongoing revenues from an existing product or service. According to the venture arm's limited liability company agreement, investment stakes do not exceed 20% in equity (FindLaw.com 2000). In addition to financing, Merck Capital Ventures offers representation on portfolio company boards and access to synergistic, commercial relations with the parent company.

Presently, Merck Capital Ventures has invested in four companies: Acurian and PHT, both in clinical trial management; Aegis, a developer of decision-support tools for manufacturing; and a marketing/sales force effectiveness business. Merck's slow investment pace may be indicative of a cautious approach. Firm executives Gary Lubin and Jeffrey Tarlowe reported that, although they collaborate with other venture capitalists and do their own comprehensive research, they prefer referrals through Merck's business units, which have exposure to various vendors in the field (Shalo 2002).

## **CONTENTS**

<b>Becton Dickinson Biotechnology Incubator .....</b>	<b>107</b>
<b>Fizzion (Coca-Cola) .....</b>	<b>109</b>
<b>Lucent New Ventures Group .....</b>	<b>111</b>
<b>Nidus Center for Scientific Enterprise .....</b>	<b>113</b>

## Corporate-Sponsored Incubators

### **Becton Dickinson Biotechnology Incubator** (<http://www.bd.com/technologies/busdev/>)

Becton Dickinson, a major producer of medical supplies and devices, formed its in-house incubator in 1998 within a previously established research facility in North Carolina's Research Triangle Park. Converting 20,000 to 30,000 square feet of lab space into incubator space, the corporation sought to team with fledgling companies, including forming joint ventures or investing in them. The details of these partnerships are negotiable, varying on a case-by-case basis, and may include licensing innovative technology rights to Becton Dickinson. Start-up Research Triangle companies ideally stay at the incubator for periods ranging from six months to two years (Ranii 1998)

The incubator's first client company, Synergy Vaccines, leased a small office and 500 square feet of fully equipped laboratory space for development of a vaccine booster (SynerVax) that dramatically boosts the effectiveness of vaccines. Moving into the space enabled Synergy to focus its efforts on advancing its technology and finding corporate partners, eliminating the need to search for suitable, affordable laboratory space. Becton Dickinson also offered the company access to expensive equipment, its scientific library, conference rooms and other amenities (Ranii 1999).

In addition to incubator office services, portfolio companies may receive funding from Becton Dickinson's venture arm, BD Ventures – a \$40 million fund started in 1998 and headquartered in Franklin Lakes, N.J. Not all incubated companies are funded through the venture arm, although those that do may be considered for acquisition by Becton Dickinson. The venture arm usually invests “hundreds of thousands of dollars to \$5 million” in a start-up, with the typical investment being less than \$2 million. Its equity stake ranges anywhere from 4% to 19% (Rogoski 2001).

By July 2001, four start-up companies were housed in the company's incubator, all of which fulfilled the prerequisite of working in an area of interest to Becton Dickinson (Rogoski 2001). According to North Carolina's Council for Entrepreneurial Development, the incubator serves four major industries: (1) Drug and vaccine delivery; (2) Biosensors; (3) Information technology (including medicine); (4) Cellular and tissue engineering. Potential incubated companies are required to work in a strategic interest area to Becton Dickinson with a strong IPO position. Among the services available for start-ups are: wetlab, office and carrel space, meeting rooms, cafeteria facilities, CAE rapid prototyping, safety, pilot plant facilities, an animal facility, library, and remote audio and video capabilities. Specialized equipment and laboratory space can also be accessed. Funding offerings include seed funding, equity investments, R&D funding, and licensing payments. Unlike Monsanto's Nidus Center, the Becton Dickinson incubator is a for-profit facility (CEDNC 2002).



## Corporate-Sponsored Incubators

### Fizzion (Coca-Cola) (<http://www.fizzion.com>)

Coca-Cola's incubator program was established in March 2001 for developing products that would have strategic potential for the beverage corporation's volume, revenues or profits. New ventures are recruited into the Fizzion incubator offices, located across the street from Coke's Atlanta headquarters, and may each receive up to \$250,000 in funding. The incubator's primary goal is to integrate new products into Coke's operations within a year. Although Fizzion itself has no plans to go public, it expects many of its incubated companies to do so. To help identify promising start-ups, Fizzion signed a deal with the Advanced Technology Development Center (ATDC), a business incubator associated with the Georgia Institute of Technology (Bachman 2001). Initially responsible for evaluation procedures and recruitment of candidates, the ATDC will eventually be a partner in the Fizzion limited liability unit. Georgia Tech's incubator is paid by Coke on a contractual basis, and does not rule out co-investing with the beverage corporation in the future (Tenorio 2001). During the first three months of operation, Fizzion received over 100 business plans from prospective portfolio companies. All companies are required to find a matching amount of funding from other private investors in order to gain admittance into the incubator (Hicks 2001).

In exchange for the 12% equity stake Fizzion takes in the 10 to 15 client companies, the incubator offers office space and marketing expertise. In many cases, Coca-Cola itself is a test customer for products in development (Hubbard 2001). Coke will also aid Fizzion's entrepreneurs with finding outside VC funding. Although incubated companies are not likely to devise the formula for Coke's newest beverage, the potential technologies targeted for development are broad, including: e-commerce, software, environmentally safe products, new bottling processes, packaging, or production. As a wholly owned subsidiary, Fizzion has a "variable budget" to support about eight companies in its first year of operation, and eventually about 15 per year (Tenorio 2001).

According to Fizzion President and CEO Chris Lowe, the incubator differs from others in Atlanta because it incorporates the application of enabling technology against existing commercial enterprise. “Fizzion is set up more as an R&D function for Coca-Cola than as an investment arm. So where the past incubators were dependent upon rapid scale of the incubated companies up to a liquidation event, we’re not driven by that” (Barger 2001).

From the company’s online documents ([www.fizzion.com](http://www.fizzion.com)), Fizzion is a networked business accelerator positioned to help Coca-Cola gain access to innovation. The incubator is designed to help entrepreneurs validate the commercial viability of their new technologies by providing its members with access to sales and marketing expertise, possible beta test sites in the beverage industry, and the potential to develop their first customer. Since its inception, the incubator has reported very little progress. A review of available literature and media sources shows that only one company – IT applications and software start-up enLeague Systems – has entered the Fizzion incubator (ATDC 2002).

## Corporate-Sponsored Incubators

### Lucent New Ventures Group (<http://www.lucent.com>)

Started in 1997, the now-defunct New Ventures Group (NVG) was at a time one of Lucent's most successful methods of retaining valuable employees with innovative ideas. The incubator was formed to look internally for ideas that could grow into independent companies, and to stave off a "brain drain" of talented Lucent employees lured by startup riches (Ecklund 2000).

Essentially, NVG was a \$200 million portfolio of business ideas culled from within Lucent's Bell Laboratories. While Bell Labs was claiming four new patents a day, such ideas can "wither" inside a giant company without a more dedicated effort to develop them. By February 2000, the incubator housed more than a dozen early-stage businesses. The group spawned a digital radio company, half of which was sold to outside investors. Other innovations involved electronic fingerprinting, analysis of huge volumes of phone calls, and faster 911 responses by police and fire departments. While some of the ventures had been acquired by Lucent, none had yet gone public. Yet, even without an IPO, the incubator produced a triple-digit return in three years of operation (Healy 2000).

In June 2000, NVG was helping develop Lucent's Electronic Media Network Services (EMNS), representing the company's largest provider of web services, including custom hosting, applications development and call center management. The EMNS organization was transferred to a privately owned company, HealthCenter Internet Services, Inc., in return for a minority equity share in HealthCenter. The transfer made HealthCenter a premier application service provider of application hosting, communications, patient management and clinical services for physicians and consumers. For NVG, the venture was an opportunity to leverage Lucent's technology to generate value in networking (*Business Wire* 2000f).

By October 2000, NVG had spawned 18 companies, including WatchMark, a developer of software for wireless networks, Flarion Tech-

nologies, a commercializing wireless data access technology invented at Bell labs, and Ciro's Technologies, a maker of optical disks for data storage (Ecklund 2000). In March 2001, this number had grown to approximately 30 spin-off companies, which netted more than \$375 million in venture capital from internal and outside sources (Kurdek 2001).

When Lucent found itself under severe financial pressure in August 2001, scrambling to stave off collapse through asset and debt sales, NVG was among many divisions potentially on the chopping block (including the corporation's venture fund unit, Lucent Venture Partners). The unit's portfolio had amassed to 32 companies, which had received at least \$250 million in venture backing. The incubator reported an annualized return of about 60%, based on the value of the latest startups' financing rounds (Tenorio and Carlsen 2001).

Ultimately, Lucent did not lose its incubator portfolio entirely. In January 2002, Lucent Technologies and Collier Capital of London created a new venture capital partnership named New Venture Partners II LP (NVP II), which was positioned to own and manage the former NVG portfolio of businesses. Under the terms of the agreement, Lucent sold 80% of its equity stake in NVG to Collier Capital, an international specialist investment manager. The deal also required Lucent's core NVG team to move to NVP II to manage the portfolio's progress, with Lucent retaining a 20% limited partner's interest in NVP II. For Collier Capital, the acquired portfolio offered a good spread of risk, encompassing software, communications, storage and other activities (PR Newswire 2002).

## Corporate-Sponsored Incubators

### **Nidus Center for Scientific Enterprise (Monsanto Company)** (<http://www.niduscenter.com>)

The non-profit incubator of agriculture and biotechnology corporation Monsanto is located on the company's Creve Coeur campus in St. Louis – now becoming a center for leading-edge plant, biotech, and medical science research. The \$10 million Nidus Center for Scientific Enterprise focuses on the “business side” of science, attracting entrepreneurs working primarily – although not exclusively – on plant sciences. The incubator is located just south of the larger Donald Danforth Plant Science Center, where scientists concentrate on the “research side” of science, and with which Nidus engages a great deal of collaboration. Together, the research and incubator centers are expected to attract top scientists to the area, helping Monsanto spin off technologies created by its own employees that don't fit its core business. They also offer the company an early view of potential businesses or technologies it might want to acquire (Goodman 1999).

The 40,000-square-foot Nidus Center was established to attract up to 15 companies, who, in return for incubation services, pay Nidus rent, fees for services and a 4 percent ownership stake (Goodman 1999). Its conception was based on a 1998 study commissioned by Monsanto to identify factors influencing the scope of research in the St. Louis area. The study found three main issues preventing development: (1) With the exception of the Center for Emerging Technologies, there was no regional base of research facilities to help commercialize ideas initiated within area universities; (2) There were no mechanisms to incubate ideas in the life sciences; (3) There were precious few venture capital resources to fund start-ups in the life sciences. The Nidus Center was conceived as an answer to all three challenges. In a speech that marked the official opening of the Nidus complex, Monsanto CEO Hendrik A. Verfaillie suggested that the incubator's main purpose was one of regional development. “The client companies who affiliate with Nidus will help create and deliver many of these kinds of solutions for world agriculture. And in the process, they

will transform St. Louis into a global center of plant science technology” (2000).

The incubator’s first tenants moved in during mid-December 1999, although the center was not expected to sprout companies for at least five years. According to the center’s director, Robert Calcaterra, the gestation period for biotechnology companies is much longer than for IT companies. “That has partly to do with the field we’re in – companies could take seven or eight years before their product comes to market” (*AP State & Local Wire* 2000). By October 2000, the center had attracted five start-ups to move into its facilities, and had also piqued the interest of between 10 and 15 companies looking to start their own incubation programs in the financial services, telecom, software and durable goods manufacturing industries (Etzel 2000). In February 2002, the incubator housed six clients, with two companies – Quick Study Radiology, Inc. and TSV Industries, Inc. – being prepared for graduation. This early graduation exceeded previous expectations of a long “gestation period,” and verified to Calcaterra that the center was doing a good job selecting companies (Gilbert 2002).

Nidus requires that prospective start-ups meet four criteria before being accepted into the incubator. Among these, companies must: (1) Have a complete management team or willingness to accept one put together by a Nidus advisory group; (2) Have a product or idea with real market value, as determined by independent market research; (3) Be protectable through patents or trade secret law; (4) Be able to attract investors willing to put enough money in to make the venture successful (Gilbert 2000). Once selected for incubation, companies receive facility space and equipment, as well as help in recruiting strong management teams, securing patents and licenses, firming up business plans and acquiring financing. By February 2002, Nidus had helped attract more than \$25 million in angel and venture fund for its client firms, relying upon relationships with national and international venture capital firms (Gilbert 2002). Some of the VC firms within the incubator’s network are represented on its Board of Directors and Advisory Council.

Client companies receive a diverse package of business development services and on-site support within the Nidus incubator. Nidus Center provides direct business assistance and counsel that includes:

- 1) Business Guide – designed to specifically identify for companies their critical success factors and long and short-term strategic action plans required to succeed.
- 2) Business Plan Development – assisting clients in developing a professional and believable plan for the purpose of raising capital and guiding the company.
- 3) Coaching – regular meetings with Nidus Center's president/ CEO or COO to review current business status and address issues before they become a detriment to business success.
- 4) Management Expansion and Enhancement – using established relationships with the business and technical community to locate appropriate executives that are the right match for client companies to expand and enhance their existing business management team.
- 5) Investment Capital – access to start-up capital, qualified angel investors, venture capital and joint venture partners.
- 6) Advisory Board Mentoring – expertise and ongoing advice to maintain an effective and successful company, achieved through monthly meetings using a formalized continuous improvement process with clients to develop action plans.
- 7) SBIR Proposal Training – formal training and assistance in obtaining federal SBIR grants.
- 8) Direct Consulting Services – staff is available to assist with day-to-day business operations such as negotiations, finance, and accounting.

9) Intern Support – core group of graduate level students to serve as interns to conduct research and provide daily support as a staff extension for each client.

10) Professional Services – Access to legal, accounting services and advice through service providers who are screened to insure a high level of value added support, at discounted rates.

11) Management Training

12) CEO Meetings – conducted on a regular basis with the staff and all client companies, allowing clients to collectively develop innovating short and long-term solutions to strategic business issues.

13) Business Seminars – with nationally recognized business leaders.

Eight services classified as on-site support include the following:

1) Data Networking Technology – to share information with internal and external partners in a highly dynamic fashion.

2) Off-Site Equipment and Product Testing – access to appropriate testing facilities to fine-tune and further develop client products.

3) Hazardous/Biohazard Waste Removal – clients are provided with the safe removal of hazardous and biohazard waste as part of its service package.

4) Nuclear Regulatory Commission Radioactive Materials License allows clients the right to use certain radioactive materials in the development of products or in research activity under license from the U.S. Nuclear Regulatory Commission.



5) On-Site Scientific Photographic Film Development Facilities – quick turnaround on image development for use in product testing and analysis, which also keeps proprietary product images confidential.

6) On-Site Growth Chamber – to develop and test products in an on-site facility.

7) On-Site Daycare and Fitness Facilities

8) Security

In the early stages of the center's operations, there were concerns that the connection with Monsanto would be negative, particularly by entrepreneurs fearing they would lose rights to their technologies. To allay these fears, certain separating structures were set in place, including a restriction from disclosing information to Monsanto, which gives entrepreneurs more autonomy. In addition, the incubator's president reports directly to both Monsanto's president and a separate non-Monsanto board (Etzel 2000). According to the incubator's website ([www.niduscenter.com](http://www.niduscenter.com)), the Nidus Center is completely independent of Monsanto, "with no residual requirements on client companies." Client companies are expected to build collaborative relationships with not only Monsanto's partner organizations, but with its competitors.

## CHAPTER 2 REFERENCES

- Aoki, Naomi  
2000. "Biotechnology: Incubators Seek Rebirth. Firms Try To Restore Reputations, Distance Themselves From Stigma of Dot-Com Failures." *The Boston Globe*, December 13, 2000, pg. 16.
- Associated Press State & Local Wire  
2000. "Nidus Center helps sprout biotechnology companies." April 19, 2000.
- ATDC  
2002. Profile of enLeague Systems.  
<http://www.atdc.org/companies/enleague.html>, accessed 7/26/02.
- Bachman, Justin  
2001. "Coke forms new subsidiary to capitalize on start-up ideas." *The Associated Press State & Local Wire*, March 20, 2001.
- Barger, Jim Jr.  
2001. "Gone Fizzion." *Catalyst Magazine*, September 2001.
- Beauprez, Jennifer  
2001. "Not all incubators on life support. Softbank confident its Hotbank venture will buck trend." *The Denver Post*, March 20, 2001.
- Birger, John  
2000. "Intel way inside: How Intel is using its venture arm to get an edge in the post-PC world." *Red Herring*, June 2000.
- The Boston Globe  
2001. "D.C. Denison / Onsite." November 4, 2001, pg. E2.
- Boston.internet.com  
2000. "CMGI Restructuring Goal: Growth and Profitability." September 7, 2000.
- Brinsley, John  
2001. "Corporate Venture Funds Focus on Core Technologies." *Los Angeles Business Journal*, March 19, 2001.
- Bushrod, Lisa  
2000. "Dell Ventures moves to London." *European Venture Capital Journal*, December 1, 2000.
- Business Wire  
1997. "Firm Created to Incubate Promising New Medical Technologies." July 10, 1997.\
- 1998a. "Specialized Health Products International Inc. Announces Johnson & Johnson Development Corp. Has Made an Equity Investment of \$2 Million in SHPI." January 20, 1998.

## Business Wire

1998b. "Ergo Science and Johnson & Johnson Form Worldwide Collaboration Agreement on Ergo Science's Products for Type 2 Diabetes and Obesity." February 24, 1998.

1998c. "BioCryst Pharmaceuticals and Johnson and Johnson Announce Worldwide Influenza Collaboration." September 15, 1998.

1999. "Johnson & Johnson and Neose Technologies Expand Relationship for Development and Commercialization of Novel Complex Carbohydrate Products." January 14, 1999.

2000a. "Softbank and I-Group Announce Boston-Based Internet Incubator for Development of Seed-Stage Companies." February 7, 2000.

2000b. "Dell Ventures Activity Expanded to Include Incubation: Thomas J. Meredith Appointed a Managing Director of Investment Group." March 29, 2000.

2000c. "CMGI and Compaq Extend Alliance; Compaq Announces Strategic Investment in CMGion." April 20, 2000.

2000d. "Leading Internet Venture Capital Firm Closes Its Largest Fund; Softbank Venture Capital Expands with Latest \$1.5 Billion Fund and New Visionary Partners." May 10, 2000.

2000e. "incuVest Acquires Interest in XL Vision, in Partnership with Safeguard Scientifics; Investment Marks First Step in Creation of Global Technology incuVator Network." May 31, 2000.

2000f. "New Lucent Technologies Venture with HealthCenter Internet Services to Develop Highly Secure Infrastructure for Health Care Providers." June 27, 2000.

2000g. "Softbank Venture Capital Announces Hotbank Incubator Expansion to Colorado." August 10, 2000.

2001a. "TechSpace Opens Its Doors in San Francisco; Offers Fully Wired, Flexible Office Space." February 26, 2001.

2001b. "Cenetec Technology Accelerator Companies Defy Tough Market to Meet Milestones." March 21, 2001.

2001c. "e.Lilly Announces Plans to Launch New Startup; InnoCentive Introduces Novel Approach to Drug Discovery Using the Internet." June 28, 2001.

2001d. "Lilly Announces New Venture Capital Fund; Lilly BioVentures Targets Investment Opportunities in Biotech Start-up Companies." September 20, 2001.

2002. "Cannell Capital LLC Wins Default Judgment Against TechSpace, Inc." February 13, 2002.

## Christopher, Alistair

2001a. "Eli Lilly Launches \$50M VC Fund." Venture Capital Journal, March 1, 2001.

- Christopher, Alistair  
2001b. "Incubators Lose Favor, Some Still See Potential." *Venture Capital Journal*, May 1, 2001.
- Clark, Philip B.  
2000. "Dell unit to assist start-ups with IT." *B to B*, September 25, 2000.
- Coats, David  
2002. Personal correspondence. Former President, Forge Medical Ventures. July 25, 2002.
- Cohen, Sarah  
2001. "Cisco grabs Allegro Systems for \$181M." *The Daily Deal*, July 27, 2001.
- Computerworld  
2000. "Merck to invest \$100 million in online health start-ups." V. 34, No. 49, pg. 24.
- Coombs, Joe  
2002. "Lead GTEC firm to halt 'new deals'." *The Gainesville Sun*, July 12, 2002.
- Cooney, Elizabeth  
2001. "Nothing ventures, nothing gained; Self-interest motivates large corporations to invest in small companies." *Worcester Telegram & Gazette Sunday Telegram*. March 25, 2001, pg. E1
- Council for Entrepreneurial Development, North Carolina (CEDNC)  
2002. Profile of Becton Dickinson Biotechnology Incubator.  
<http://www.cednc.org/incubator/Becton.html>, accessed 7/29/02.
- Council for Entrepreneurial Development, North Carolina (CEDNC) News  
2002. "New Venture Lulu, Inc. Acquires OpenMind."  
[http://www.cednc.org/news/entrenews/2002/3\\_25.html](http://www.cednc.org/news/entrenews/2002/3_25.html),  
accessed 8/16/02.
- Crain's Chicago Business  
2001. "Ailing Divine to Dump Goose Island Parcel." February 26, 2001, pg. 1.
- Davey, Tom  
2000a. "Park the new venture market in Garage.com." *Red Herring*, February 16, 2000.  
  
2000b. "Corporate VC arms can't pin down talent." *Red Herring*, November 28, 2000.
- DeBellis, Matthew A.  
2000. "Lucent launches second fund to plug product holes." *Red Herring*, March 13, 2000.

- Dingan, Larry  
2001. "Tech giants stay steady with VC funds." CNET News.com, October 30, 2001.
- Ecklund, Bridget  
2000. "Regional VCs: New Jersey – Telecommunications companies sprout investment opportunities in the Garden State." Red Herring, October 2000.
- Etzel, Barbara  
2000. "As Nasdaq swoons, corporate VC fills financing gap." Investment Dealers Digest, October 16, 2000.
- Fellers, Charles R.  
2001. "Pharmaceutical Giant Launches VC Fund." Venture Capital Journal, February 1, 2001.
- Financial Times (London)  
2000. "Inside Track: Internet investors feel the squeeze: E-businesses are hurting – but those who put money into them are hurting even more." December 19, 2000.
- Findlaw.com  
2000. Limited Liability Company Agreement of Merck Capital Ventures, LLC. <http://contracts.corporate.findlaw.com/agreements/merck/ventures.llc.2000.11.27.html>, accessed: 7/15/02.
- Fineberg, Seth A.  
1998. "Lucent Assembles Venture Capital Unit." Venture Capital Journal, April 1, 1998.
- Fugazy, Danielle  
2001a. "Lucent Denies VC Sale Rumors." Private Equity Week, August 20, 2001.  
  
2001b. "Garage Tries to Adapt in Post-Dotcom World." IPO Reporter, October 29, 2001.
- Gibson, Dale  
2001. "NextAudio latest to land in dot-compost." The Business Journal (Raleigh/Durham), April 6, 2001.
- Gilbert, Virginia B.  
2000. "Nidus Center Begins Germination Today." St. Louis Post-Dispatch, April 19, 2000.  
  
2002. "Incubator's Progress in Developing New Firms Runs Ahead of Schedule; Nidus Has 4 Other Clients, Seeks More." St. Louis Post-Dispatch, February 25, 2002, pg. 9.
- Gompers, Paul A. and Josh Lerner  
2000. "The Determinants of Corporate Venture Capital Success: Organizational Structure, Incentives, and Complementarities," in Concentrated Corporate Ownership, ed. Randall K. Morck. Chicago: The University of Chicago Press, 17-53.

Goncharoff, Katherine

2000. "We are essentially operations guys." *The Daily Deal*, December 7, 2000.

2001. "Eli Lilly launches \$75M VC fund." *The Daily Deal*, September 20, 2001.

Goodman, Adam

1999. "Monsanto is Building an Incubator to Hatch Plant Science Businesses." *St. Louis Post-Dispatch*, August 4, 1999, pg. C1.

Gordon, Buzzy

2001. "Dell comes to Israel with deep pockets." *The Jerusalem Post*, January 19, 2001, pg. 13A.

Graham, Jed

2000. "Divine's Intervention Heats Internet Incubator Market." *Investor's Business Daily*, April 12, 2000, pg. 6.

2001. "Tech Wreck: Net Incubators Aren't Generating Much Heat These Days." *Investor's Business Daily*, January 8, 2001.

Hamilton, Dennis

2002. "Lilly funds look for health opportunities." *Indianapolis Business Journal*, April 1, 2002, pg. 27.

Hayes, Darrin

2002. "Tech-ing Center Stage: Gainesville startups benefit from set up." *The Business Journal of Jacksonville*, May 6, 2002.

Healy, Beth

2000. "Lucent Group Looks Within For Ideas to Take to Market." *The Boston Globe*, February 28, 2000, pg. C7.

2001a. "Startups now ask: What's the rush?" *The Boston Globe*, February 19, 2001.

2001b. "Moving on to their Next Big Thing." *The Boston Globe*, March 5, 2001.

2001c. "Technology & Innovation Venture Capital; Eyeing the Upside, They Provide A Roof For Start-Ups." *The Boston Globe*, April 2, 2001, pg. C4.

2001d. "Venture Capital Technology & Innovation; Softbank Essentially Calls It Quits in the United States." *The Boston Globe*, December 17, 2001, pg. C1.

Henig, Peter D.

2000. "And now, EcoNets." *Red Herring*, February 2000.

Henry, David

2001. "Venture Capital: Should Intel Stick to its Day Job?" *Business Week*, October 15, 2001, pg. 85.

Hicks, Matt

2001. "Venturing Onward: Some enterprises are still investing in tech startups." *E-Week*, May 28, 2001.

Holson, Laura M.

2000. "Hard Times in the Hatchery; After Dot-Com Flameout, 'Incubator' Is a Despised Word." *The New York Times*, October 30, 2000, pg. 1C.

Hoover's Online

2002a. CMGI, Inc. Profile.

<http://www.hoovers.com/premium/profile/8/0,2147,16748,00.html>, accessed 6/6/02.

2002b. Safeguard Scientifics, Inc. Profile.

<http://www.hoovers.com/premium/profile/1/0,2147,11311,00.html>, accessed 6/7/02.

2002c. Softbank Corp. Profile.

<http://www.hoovers.com/premium/profile/2/0,2147,42482,00.html>, accessed 6/20/02.

2002d. Eli Lilly and Company Profile.

<http://www.hoovers.com/premium/profile/9/0,2147,10509,00.html>, accessed 7/22/02.

2002e. Mainspring, Inc. Historical Profile.

<http://www.hoovers.com/premium/profile/boneyard/2/0,5034,99872,00.html>, accessed 7/23/02.

2002f. United Online, Inc. Financials.

<http://quotes.hoovers.com/thomson/quote.html?p=&c=103858&temp=1&t=UNTD&e=Nasdaq&n=United+Online%2C+Inc%2E>, accessed 8/26/02.

2002g. Tickets.com, Inc. Financials.

<http://quotes.hoovers.com/thomson/quote.html?p=&c=60010&temp=2&t=TIXX&e=Nasdaq&n=Tickets%2Ecom%2C+Inc%2E>, accessed 8/26/02.

Houston Chronicle

2001. "Compaq Changes Approach, Axes Venture Capital Investment Team." July 19, 2001.

Hubbard, Caroline

2000. "Atlanta Tech: Bringing them up to speed; Nourishing firms: McKinsey doesn't hatch new companies but helps them spread wings." *The Atlanta Journal and Constitution*, May 21, 2000, pg. 4D.

2001. "Coke setting up incubator to churn out business ideas." *The Atlanta Journal and Constitution*, March 21, 2001, pg. 2F.

- Hughes, C.J.  
2000. "TechSpace Gets New Digs on Left Coast, in Beantown, in the Great White North – and Downtown." Silicon Alley Daily, July 28, 2000.
- Imperato, Gina  
2000. "Digital Deliberations. How the Web is changing the lives of lawyers." Fast Company, June 2000.
- IPO.com  
2002a. Profile of Intel Capital.  
<http://www.ipo.com/venture/vcprofile.asp?p=IPO&vc=200>,  
accessed 6/18/02.
- 2002b. Profile of Cisco Systems.  
<http://www.ipo.com/venture/vcprofile.asp?p=IPO&vc=326>,  
accessed 7/15/02.
- 2002c. Profile of Johnson & Johnson Development Corporation.  
<http://www.ipo.com/venture/vcprofile.asp?p=IPO&vc=354>,  
accessed 7/15/02.
- 2002d. Profile of Dell Ventures.  
<http://www.ipo.com/venture/vcprofile.asp?p=IPO&vc=453>,  
accessed 7/18/02.
- 2002e. Profile of Lilly BioVentures.  
<http://www.ipo.com/venture/vcprofile.asp?p=IPO&vc=21426>,  
accessed 7/22/02.
- 2002f. Profile of E.Lilly Venture Fund.  
<http://www.ipo.com/venture/vcprofile.asp?p=IPO&vc=13331>,  
accessed 7/22/02.
- 2002g. Profile of Lucent Venture Partners.  
<http://www.ipo.com/venture/vcprofile.asp?p=IPO&vc=8745>,  
accessed 7/23/02.
- Kanellos, Michael  
2000. "AMD defectors flock to chip start-up." CNET News.com, May 20, 2000.
- Kaplan, Nancy  
2001. "Assimilate, Integrate, or Leave Alone? What you do with the company you just acquired depends on why you bought it in the first place." Journal of Business Strategy, V. 22, No. 1 (January 2001), pg. 23.
- Kaputska, Paul  
1999. "Garage.com opens the door to \$12 million in funding." Red Herring, September 14, 1999.
- Kelly, Matt  
2001. "Venture Capital: Remember the Titans." Boston Business Forward, August 2001.
- Key, Peter  
2000. "Safeguard spins its Web." Philadelphia Business Journal, February 4, 2000.



- Kraeuter, Chris  
2001. "Etoys to file for bankruptcy protection." CBS.MarketWatch.com, February 26, 2001.
- Kurdek, Robyn  
2000a. "Public Market Gridlock Jams Garage.com IPO." IPO Reporter, October 30, 2000.  
  
2000b. "Divine Interventures & ICG Slim Down And Shift Into New Operational Mode." Private Equity Week, November 13, 2000.  
  
2001. "Lucent Spin Off Scores in VC Market." IPO Reporter, March 26, 2001.
- Landry, Julie  
2000a. "An incubator by geeks, for geeks: Viva la Raza! Former AMD star Atiq Raza has set out to build an incubator for technically-minded entrepreneurs – propeller heads." Red Herring, May 31, 2000.  
  
2000b. "Inside enigmatic Dell Ventures." Red Herring, June 20, 2000.
- La Monica, Paul R.  
2001. "Cisco's Midas touch." Red Herring, March 5, 2001.
- Lazaroff, Leon  
2002. "TDF benefits from wireless license down payments." The Daily Deal, January 18, 2002.
- Lieber, Tammy  
2001. "Lilly devotes \$75M to fund for start-ups." Indianapolis Business Journal, 22(29): pg. 29A.
- Little, Darnell  
2000. "Incubator – or Incinerator?" Business Week, October 23, 2000, pg. 112.
- Loftus, Peter  
2001. "Intel to keep investment pace despite downturn." Pittsburgh Post-Gazette, February 22, 2001, pg. B-4.
- Macaluso, Nora  
2000. "Dell Ventures to Broaden E-Commerce Investment." E-Commerce Times, March 30, 2000.
- Malik, Om  
2000. "Metacompanies: the case for meta-morphosis." Red Herring, November 2000.
- Mallik, Satyam  
2000a. Internet Incubators: Fueling the Growth of eCommerce. Philadelphia, PA: Electronic Market Center, Inc.  
  
2000b. Company Update Report: Internet Capital Group. Philadelphia, PA: Electronic Market Center, Inc.  
  
2000c. Internet Incubators Part 2: CMGI Inc. Philadelphia, PA: Electronic Market Center, Inc.

2000d. Internet Incubators Part 3: Safeguard Scientifics, Inc. (SFE).  
Philadelphia, PA: Electronic Market Center, Inc.

Markarian, Jennifer

2000. "Business-to-business e-commerce gains foothold in oils market."  
Chemical Market Reporter, July 31, 2000, pg. 10.

Mason, Heidi and Tim Rohner

2002. The Venture Imperative. Boston, MA: Harvard Business School.

McClain, Tim

1998. "Really, Really Early Venture Capital." San Diego Metropolitan, S.D.  
Scene, July 1998.

McCormick, Gavin

2001. "One of Six I-Group Startups to Close." Boston.internet.com,  
February 15, 2001.

Meyer, Lisa

2000. "Merck prescribes VC for drug distribution." Red Herring, December  
5, 2000.

Molineaux, Charles and Patricia Sabga

2000. "Garage.com – CEO, CNNfn." The N.E.W. Show, November 30,  
2000.

Moltzen, Edward F.

2000. "Vendor Capital – IT Players Make Big Wagers in the VC Game."  
Computer Reseller News. June 19, 2000.

Moore, Meg Mitchell

2001. "Seedlings: Agriculture giant Cargill is hoping an incubator unit will  
produce a bumper crop of e-business startups." Darwin Magazine,  
November 2001.

Morton, Felicia

2000. "Coming up roses: Venture capitalist looks to grow her company by  
helping tiny firms get big." [http://digitalmass.boston.com/people/masters/2000/ellen\\_roy.html](http://digitalmass.boston.com/people/masters/2000/ellen_roy.html), accessed 7/2/02.

National Business Incubation Association (NBIA)

2002. <http://www.nbia.org/>, accessed 6/27/02.

Neel, Dan

2000. "Start-ups benefit from high-tech support." InfoWorld. November 6,  
2000, pg. 41.

Olofson, Cathy

2001. "Against the grain." Fast Company, May 2001.

Perkins, Tony

2000. "The Red Eye: Dell Speaks." Red Herring, May 2, 2000.

#### PR Newswire

1996. "R&D Collaboration with Ethicon Extended; J&J to Increase Investment in Protein Polymer." December 10, 1996.

2000a. "Safeguard Scientifics Acquires Interest in TechSpace to Further Establish National Incubation Footprint; Creates TechSpace Ventures and Expands Incubation Model to Include New York, Boston and San Francisco." February 7, 2000.

2000b. "Safeguard Receives Strategic Investment from Compaq; Raises \$50 million in Sale of Common Stock." May 1, 2000.

2000c. "IDC Says the Concept of Incubation is Here to Stay; New Report Explores How the Key to Incubator Success is in the Execution." October 20, 2000.

2001a. "Telecommunications Development Fund to Participate as Partnership Sponsor in Springboard 2001: Mid-West; Chicago Office Participates in Regional Venue Focused on Women Entrepreneurs." February 7, 2001.

2001b. "Cargill Leads DemandTec Series C and Joins DemandTec Board: Cargill Endorses Leader in Demand Based Management." December 17, 2001.

2002. "Lucent Technologies and Collier Capital form independent venture firm to manage Lucent's New Ventures Group portfolio." January 3, 2002.

#### Raik-Allen, Georgie

1999. "Little companies need big companies." Red Herring, May 19, 1999.

#### Ranii, David

1998. "Becton Dickinson beckons start-ups." News & Observer – Raleigh, June 18, 1998, pg. D1.

1999. "Synergy allies with major company." News & Observer – Raleigh, May 4, 1999, pg. D1.

#### Reinhardt, Andy

1999. "Mr. Internet: Cisco Systems CEO John Chambers has a vision of a New World Order – with Cisco as its No. 1 supplier." Business Week, September 13, 1999, pg. 128.

#### Roeder, David

2000. "Dotspot creates niche as e-biz 'accelerator'; Firm offers start-ups office space, expertise." Chicago Sun-Times, November 28, 2000, pg. 53.

#### Rogoski, Richard R.

2001. "Firms still funnel funds to start-ups." The Business Journal (Raleigh/Durham), July 30, 2001.

#### Rowe, Timothy

2000. "Move over, garage inventor, for the incubator." Journal of Commerce, May 30, 2000, pg. 6

- Ryan, Vincent  
2000. "After the incubator." TelecomClick, Telephony, November 20, 2000.
- Sabga, Patricia and Charles Molineaux  
2000. "ICG On The Ropes, CNNfn." The N.E.W. Show, September 22, 2000.
- Sacirbey, Omar  
2000. "Funding in Hand, IncuVest Starts 'Incuvator Network'". IPO Reporter, March 20, 2000.
- Sander, Erik  
2002. Personal communication (interview). June 5, 2002. Gainesville, Florida.
- Schnitzler, Peter  
2001. "For-profit incubators fall far from favor. Start-ups face fortunes outside the womb." Indianapolis Business Journal, November 26, 2001, pg. 3.
- Schuch, Beverly  
1999. "TechSpace President, CNNfn." Business Unusual, July 9, 1999.
- Scouras, Ismini  
1996. "Cisco Keeps Moving on Acquisitions." Electronic Buyers News. August 12, 1996, pg. 10.
- Shah, Janet  
2000. "Making of Net Czar." The Economic Times, July 20, 2000.
- Shalo, Sibyl  
2002. "Arms Race Drives Sales Force Change." Pharmaceutical Executive, V. 22, No. 5, May 1.
- Sickinger, Ted  
2001. "By investing, Intel Capital is banking on the future." The Sunday Oregonian, Sunrise Edition, November 18, 2001, pg. D01.
- Silicon Valley Daily  
2000. Profile of Garage.com. <http://svdaily.com/garage.html>, Updated: April 2, 2000.
- Singer, Thea  
2000. "Inside an Internet Incubator." Inc., July 2000, pg. 92.
- Stein, Tom  
2001a. "VC Whispers: Pharma's insider information." Red Herring, April 13, 2001.  
  
2001b. "Biotechs Gain VC Respectability." Investment Dealers' Digest, 67(9).

- Takahashi, Dean  
2000. "Hatching a better incubator: Some incubators' nest eggs are starting to smell rotten, but Raza Foundries' looks golden." Red Herring, December 2000.
- Tenorio, Vyvyan  
2000. "Lew leads TDF's telecom investments." The Daily Deal, September 1, 2000.  
  
2001. "Coke eyes fresh ideas, bubbly profits." The Daily Deal, March 29, 2001.
- Tenorio, Vyvyan and Clifford Carlsen  
2001. "Lucent looks to sell PE, VC portfolios." The Daily Deal, August 2, 2001.
- The Age (Melbourne)  
2000. "Dell Hatches a Plan for Start-ups." January 25, 2000, pg. 3.
- Thompson, Valerie  
2000. "Strategy – Venture Capital – Mobile Ventures." Roam. November 2000.
- Van Brunt, Jennifer  
2002. "Corporate VCs Keep an Eye on the Future." Signals Magazine, May 3, 2002.
- Verfaillie, Hendrik A.  
2000. Remarks at Nidus Center Dedication Ceremony, April 19, 2000.  
[http://www.monsanto.com/monsanto/media/speeches/nidus\\_hav.html](http://www.monsanto.com/monsanto/media/speeches/nidus_hav.html), accessed 7/25/02.
- Wieffering, Eric  
2001. "Rooster Web site logs off for good; It couldn't get more financing." Star Tribune (Minneapolis, MN), December 11, 2001, pg. 1D.
- Wireless Today  
2001. "VC Firm Looks For Companies That Make Wireless Worthwhile."  
October Appendix to Part II  
Profiles of Direct Investment Models, Corporate Venture Arms and Corporate-Sponsored Incubators

# FOREIGN-OWNED AND INTERNATIONAL INCUBATORS IN THE U.S.

## Introduction

Among the new types of incubators in the US are foreign-owned and international business incubators. These incubators represent opportunities for foreign-owned companies to gain a foothold in US markets and/or provide entrepreneurs from foreign nations or ethnic groups within the US with specialized support for their start-up enterprises. A relatively recent phenomenon, they provide a unique context in which to explore the incubator movement. Two types of such incubators are found in the US at present. The first type are foreign-owned incubators and the second type we refer to as “international incubators.”

## Foreign-owned Incubators

In recent years, a number of foreign-owned companies have established incubators or venture capital operations in the United States, with the intent of helping foreign start-ups or corporate branches gain a foothold in US markets. Many of these incubators require client companies to have first attained a significant presence in their origin countries. Consequently, these companies are generally in more advanced stages of development compared with companies in non-international incubators. To gain entry, they must already have a product, a client base, and proven record of success.

Foreign-owned incubators differ from other US incubators in another important respect. That is, they assist personnel in their client companies to adjust to life in the United States – both culturally and legally. English language instruction and assistance in finding housing is not uncommon. Some incubators even assist their clients to obtain

*“...Foreign-owned incubators assist personnel in their client companies to adjust to life in the United States...”*

driver's licenses, visas, or residency status. Virtual incubation or hosting programs that provide client companies with US mailing addresses, typically represent the first step toward physically integrating a company into US markets. Many foreign-owned incubators present virtual hosting as a prerequisite for actual incubation. Case examples of foreign owned incubators include the following:

1. Advanse International (France)
2. Enterprise Ireland
3. iPark Silicon Valley/Boston (Korea)
4. JETRO US-Japan Business Incubation Center
5. Korea Venture Center
6. Panasonic Digital Concepts Center
7. Scottish Technology & Research Centers
8. Softbank

## International Incubators

Other models, known as “international incubators” are positioned to achieve a similar goal, although they are not necessarily foreign-owned. The International Business Incubator (IBI) in San Jose (see profile in the Appendix) is the best-known example. The IBI was established largely through city funding during a time when San Jose was redeveloping its downtown to be more focused on Internet, IT, and software projects for both small and large businesses. IBI utilizes outside consultants to provide advice for client companies. According to Executive Director Barbara Harley:

“We have noticed that, in many countries, the incubators try to hire all the experts they need inside the incubator (lawyers, sales managers, accountants). This is a very expensive process in the US and may limit the range of services that the incubators can provide.” (*InfoDev* 2002).

IBI also provides a window into the potential future of international business incubation – which may take on a mix of non-profit and for-profit

modalities. Many international incubators are likely to have several purposes, including encouraging development of an industry, opening U.S. markets to foreign companies, and accelerating entrance to market for specific foreign companies. For these reasons, hybrid models are likely adaptations (*InfoDev* 2002). For example, as of January 2002, IBI was in the process of creating a for-profit arm as a way of insuring sustainability.

Another trend borrowed from the international incubator model is the networking of incubators across international boundaries. Currently, foreign companies seeking to expand into US (or other foreign) markets generally turn to international incubators set up within the target nation. One viable alternative is the active networking of incubators in the United States, Europe and Asia – linking them for the purposes of helping member companies when they choose to expand internationally. Maryland-based incubator NeoTech has begun laying the groundwork for one such network – a program called “IncuNet”. Using this model, a company begins incubation within its home country. When the business is ready to expand into a foreign market, a foreign-based incubator within the IncuNet would be available to provide a short-term haven and learning environment (Morgan 2002).

*“...active networking of incubators in the United States, Europe and Asia helps member companies expand internationally.”*

Incubator America! and San Jose’s International Business Incubator are both profiled in the Appendix.



**Profiles of Foreign-Owned Incubators in the US  
and US-Based International Incubators**

**CONTENTS**

<b>Advance International .....</b>	<b>134</b>
<b>Enterprise Ireland .....</b>	<b>135</b>
<b>iPark Silicon Valley/Boston .....</b>	<b>137</b>
<b>Boston .....</b>	<b>139</b>
<b>JETRO US-Japan Business Incubation Center .....</b>	<b>140</b>
<b>Korea Venture CenterR .....</b>	<b>143</b>
<b>Panasonic Digital Concepts Center (PDCC) .....</b>	<b>144</b>
<b>Scottish Technology and Research Centers .....</b>	<b>147</b>
<b>Softbank Corp. ....</b>	<b>149</b>
<b>Incubator America .....</b>	<b>153</b>
<b>International Business Incubator .....</b>	<b>154</b>

## **Advance International (<http://www.advance.com>)**

Created in 1985 by the world's largest electric utility, Electricité de France (EDF), consulting firm Advance International has three purposes: (1) to facilitate the international development of technology-based companies; (2) to foster economic development through internationalization, attraction and creation of companies; and (3) to provide EDF with a firsthand "window" into key geographic energy markets in the U.S., Europe and Asia. In early 1999, EDF spun off Advance as an independent, women-owned firm. Over the past ten years, the firm has been instrumental in the creation of over 200 successful international alliances. Among its advantages are an extensive international network (targeting markets in North America, Europe, Asia and Latin America) and service provision through a single point of contact ("one-stop-shop" assistance).

To help international companies gain a foothold in the U.S. market, Advance features a "START" program (Sharing Temporary Resources for Technology-Based Organizations). START services are grouped into three categories: (1) Virtual Presence (VIP) Services; (2) Hosting Services; and (3) Extended Services. For all START services, client companies gain access to the firm's multi-lingual, multi-cultural experts, who have 15 years of experience in helping non-American companies successfully launch their American operations.

Virtual Presence services offer assignment of a U.S. address solely for the creation of an image, or to receive mail – with prices starting at \$300 per month. The hosting service features an incubator facility located in Arlington, Virginia. Client companies receive furnished office space, information and communication technologies (e.g., phone lines, fax lines, website creation and hosting), and financial and administrative management. Companies may also have access to the firm's personnel or recruiting services, with prices starting at \$2,000 per month. For fees quoted on a case-by-case basis, the following extended services are also available for companies in the incubator: incorporation/creation of a U.S. legal entity; "key personnel" recruiting; business/strategy development; monitoring (e.g., tracking developments in a given industry); regulatory approvals; intellectual property protection; immigration services (e.g., visas, resident status), and financing ([www.advance.com](http://www.advance.com)).

## **Enterprise Ireland (<http://www.enterprise-ireland.com>)**

Enterprise Ireland is an enterprise development agency offering business support for Irish industry and its partners on behalf of the Government of Ireland. The agency emphasizes growth and partnership support networks for Irish start-ups. It helps Irish companies reach international customers, and supports international businesses in finding suppliers and partners in Ireland. Enterprise Ireland's Technology Transfer/Business Partners Programme was established to help develop mutually profitable business alliances for Irish and overseas technology companies, including licensing, R&D, distribution and marketing agreements. Businesses in the following sectors are invited to participate: Information and communications technologies, software, electronics, engineering, biotechnology, healthcare and food.

In addition to offering international networking services from its home base in Ireland, the agency has opened business incubators in the United States – primarily for helping newly established Irish technology companies launch their U.S. operations. In October 1998, a “Startup Factory” was opened in Campbell, California, in the heart of Silicon Valley (McKay 1999). Rather than function to develop new technologies, the Campbell incubator was intended for companies with products and a client base already in place. The incubator could hold five companies at any one time, each of which had use of a single room (taking a maximum of two people) for a negotiable 3- to 12-month lease. The cost of the facility – between \$1,000 and \$1,400 per month – was lower than typical office leasing rates in Silicon Valley (The Irish Times 1999). In July 2002, Enterprise Ireland moved its incubator to San Jose. Although rental rates are normally higher in Silicon Valley, tenant companies now pay about half what they were at the Campbell location (Lacy 2002).

To gain admittance to the incubator, companies must meet a number of requirements. First, they must have a finished or nearly finished product. They must also have money in place to fund long-term sales and marketing budgets – generally in the form of second-round funding.

Client companies gain access to secretarial services offered as part of the executive office center complex. They also benefit from Enterprise Ireland's online bulletin board, through which Irish companies can communicate with one another. The agency provides access to trade shows, which offer valuable benchmarking information for newcomers. A "buddy" system was established to identify complementary established companies, which devote a few hours each month to work with start-ups on a voluntary basis.

By October 1999, the incubator was in the process of building an advisory board for assessing individual cases and brainstorming legal, marketing, financial and technical strategies. It had nurtured five companies to maturity, with no "Irish retreats out of the Valley" (The Irish Times 1999). By May 2001, the office had graduated 19 client companies, with few failures. Of the graduated start-ups, some were bought out, such as Apion and Transware; some dropped out of the U.S. market, such as Viasec and Ebeon; and others set up their own Valley offices, such as Massana and Havok (Lillington 2001). By July 2002, the incubator helped 35 Irish tech companies launch products, raise money or expand. About 65% of these companies continue to have a presence in the United States (Lacy 2002).

Enterprise Ireland operates similar incubators in New York and Boston. The Boston office was opened in March 2000, with the intent of assisting Irish software and technology firms during the stages of building a local market presence in the New England region. Each of the incubator's ten firms has up to 12 months in the incubator, and is expected to move to its own offices as respective markets open up. The center provides a customized office facility, networking benefits and hands-on support from a staff of six advisors (Kennedy 1999, Business Wire 2000).

**iPark Silicon Valley/Boston (<http://www.iparkboston.com>)  
and ([www.iparksv.com](http://www.iparksv.com))**

In 1998, South Korea's Ministry of Information and Communication (MIC), which devises the nation's information and communication policies, established the Korea IT Industry Promotion Agency (KIPA) to promote and nurture the Korean technology industry. KIPA was formed through the consolidation of three existing organizations: 1) the Korea Computer Program Protection Association; 2) the Korea Software Support Center; and 3) the Korea Multimedia Contents Promotion. During the same year, the MIC and KIPA together launched a Korean technology development initiative called "iPark" – a global network of offices offering growth acceleration services for Korean technology companies.

Currently, iPark offices are located in Silicon Valley, Beijing, Boston, Tokyo, Shanghai and London. All offices provide Korean technology companies with the following services:

- Assistance in advertising products and boosting export activities
- Providing business operating infrastructure
- Facilitating exchange of technology in international markets
- Arranging investment capital
- Offering survival support programs
- Enhancing global visibility

*Silicon Valley*

The 40,000-square foot Silicon Valley office (iPark SV) was opened in April 1998 to function as a U.S. gateway for Korea's emerging information and communication technology companies. In particular, iPark SV targets original equipment manufacturing (OEM), system integrators, VARs and distributors in vertical IT and communications markets including: communications, networking, telecom and Internet technologies, wireless technologies, storage and storage area networking, security systems, and digital content. Its services can be divided into three main

categories: 1) Channel marketing; 2) Value-added services; 3) Full service business facilities.

The channel marketing program sources, structures and manages relationships between Korean IT companies and U.S. channel partners. Portfolio companies also benefit from an array of value-added services, including accounting, tax and human resources; sales, marketing and branding; legal services; management coaching; public relations; executive search and management recruiting; strategic consulting; web design and development; and venture capital facilitation. Lastly, portfolio companies may establish a sales and support office, an R&D facility, or locate their headquarters at iPark SV.

Some of the incubator's space is set aside for specialized service firms, who provide services for portfolio companies. In addition, the incubator features a short-term business center (designed for traveling business professionals and businesses seeking temporary working space), a "virtual office" for distant companies planning to expand into Silicon Valley, and meeting facilities. Daily, weekly, and monthly rates are charged for businesses seeking to use the short-term business center. The virtual office service rate is \$250 per month.

To qualify as a resident portfolio company, prospective businesses must be Korean owned and operated, small- to medium-sized, and focused on IT or communications. Acceptance into iPark SV requires that the Korean company demonstrate an established market presence and revenues in Korea, as well as a comprehensive business plan for U.S. expansion ([www.iparksv.com](http://www.iparksv.com)).

Companies in the Silicon Valley incubator pay neither rent nor equity to iPark. By December 2000, its offices were divided into two segments – the Korean Software Incubator, housing 15 companies, and the Institute of Multimedia Content and Software, housing 20 companies. At the time, 40 vacant offices were being offered for free to venture capitalists, accounting firms, attorneys and other tech-affiliated service providers seeking to cater to incubated start-ups (Brown 2000).

## Boston

The iPark Boston office was established to offer Korean companies a systematic U.S. market entry model for achieving a sustainable presence in the American market. In particular, the incubator helps portfolio companies define marketing channel performance expectations (e.g., extent of market coverage, expectations of distributors and agents), evaluate their use of distributors or agents, and identify the most suitable distributors or agents.

Korean management teams receive assistance in executing their U.S. operations strategies in two major phases: (1) designing and (2) launching a go-to-market plan. Phase 1 includes a combination of extensive market expertise and reliable market research to examine the total market for a Korean company's products and identify the most attractive target segments. Phase 2 involves providing physical infrastructure, strategic and operational services for portfolio companies. This phase includes the provision of fully-equipped office space, and a generous subsidy by the South Korean government to all portfolio companies. The Boston iPark office arranges all the necessary back-office administrative functions, including payroll, accounting, human resources and technology support.

Like the Silicon Valley office, iPark Boston also features a virtual office for distant companies and a business center for use on a daily, weekly or monthly basis to meet short-term business needs ([www.iparkboston.com](http://www.iparkboston.com)).

## **JETRO US-Japan Business Incubation Center (<http://www.jetro.org>)**

The Japan External Trade Organization (JETRO) is a Japanese government-supported organization that promotes mutually beneficial trade and investment relations between Japan and other nations. It represents the Japanese government's move in recent years to improve the climate for entrepreneurship – in a nation where independence has traditionally been stifled. Through JETRO, the Ministry of International Trade and Industry and the Japan Small and Medium Enterprise Agency, Japan has expanded its small-business programs, founded technology parks and established technology fairs in U.S. cities, including Los Angeles (Iritani 2000).

In 2000, JETRO launched the TigerGate 2000 program – an initiative for placing Japan's most promising high-tech start-ups into U.S. incubators for several years of intensive parenting. Five U.S. technology incubators agreed to participate, including:

- International Business Incubator, San Jose (see profile below).
- EC2 Annenberg Incubator Project, Los Angeles – a multimedia business incubator affiliated with the University of Southern California Annenberg Center.
- Austin Technology Incubator, Austin – a University of Texas-affiliated incubator founded in 1989.
- Technology Innovation Center, Evanston, Illinois – a Northwestern University-affiliated incubator founded in 1986.
- Incubator AMERICA, Arlington, Virginia (see profile below) (Iritani 2000, Yamada 2000).

The program intended to send TigerGate participants to one of the five U.S. incubators, where their office rent and consulting costs would be covered by JETRO. Selected start-ups would have to pay other ex-



penses, such as housing and transportation. To consult the Japanese start-ups, JETRO representatives were available to provide advice on “everything from getting a driver’s license to wooing investors.” Yet, after three months of operation, JETRO had only received 28 applications, with all but one of the companies run by men. From this disappointing number of applicants, three of the five participating incubators had yet to find a suitable Japanese start-up by September 2000. Officials at the EC2 Annenberg Incubator claimed that most TigerGate applicants couldn’t clearly explain their businesses or hadn’t done research to show their potential for success in the U.S. (Iritani 2000).

The following year, JETRO tried a different strategy. It established its own non-profit incubator in San Jose – the US-Japan Business Incubation Center (BIC). The incubator is positioned as a central point for the launch of Japan’s cutting edge information technology into global markets. Each company is screened through a four-tier competitive process by Silicon Valley executives, JETRO management, and a team of Japanese business and academic experts. The incubator’s mission is to assist Japanese IT start-ups in forging mutually advantageous alliances with North American firms. Alliances are expected to be long-term, including technology sales, licensing, joint R&D, and marketing agreements

Companies incubated in BIC receive free furnished office space, high-speed Internet, use of common conference rooms and a business library, and general facility management services. Among the business services offered to client companies are:

- Assistance in developing and implementing business and marketing strategies through one-on-one consultation with the BIC managing director.
- Assistance in developing networks within the Silicon Valley Community (including potential investors, customers and partnerships).
- Ongoing consultation and advice from advisory board members.
- Participation in technology showcase events hosted by JETRO San Francisco.

- Practical support for clients making the transition from Japan to Silicon Valley (e.g., assistance in finding housing, getting a driver's license, etc.)

([www.jetro.org/sanfrancisco/incubator/](http://www.jetro.org/sanfrancisco/incubator/))

### **Korea Venture Center (<http://www.sbc.or.kr/english/kvc.html>)**

The Korea Venture Center (KVC) was founded in November 2000 by the Small and Medium Business Administration (SMBA) and the Small Business Corporation (SBC) for the Republic of Korea. Located in Fairfax county, Virginia (in close proximity to Washington, D.C.), the incubator was established to provide support for small- and medium-sized South Korean businesses wanting to expand in the U.S. market. Its primary mission is to promote joint ventures, partnerships, licensing arrangements and strategic alliances between U.S. and Korean small businesses. The SBC selects qualified candidate companies that have already shown a strong and successful presence in their home country ([www.sbc.or.kr/english/kvc.html](http://www.sbc.or.kr/english/kvc.html)).

Each client company receives a fully equipped office space, including voice and high-speed data access, facsimile, copy and printing machines. Consulting, venture capital, marketing, and legal services are provided as needed. Support includes subsidized rent and guidance in finding local firms for technical cooperation. By February 2001, ten of 35 prospective companies were selected to receive support at the center. Currently (August 2002), KVC's portfolio numbers eleven companies, representing a diverse range of economic sectors including: Digital television; GIS/DMS systems; wireless laser transmission; paper shredders; cosmetics; drug detection systems; Internet based telemedicine; e-business; informatics; watches and ornaments; and hands-free/mobile telecom.

## **Panasonic Digital Concepts Center (PDCC)** **(<http://www.panasonicventures.com>)**

Launched in November 1998, the incubator of Japanese-based electronics giant Matsushita is divided into three units that neatly represent the structure of most current for-profit incubation strategies: 1) An incubator group that maintains physical space and service packages for start-ups; 2) A venture capital group; and 3) A “value-adding” global network group (Electronic News 2000). Originally, Matsushita sought to establish an R&D organization in Silicon Valley – making it the company’s seventh research and development entity in the United States. After executives realized they wouldn’t be able to attract the area’s top engineers or match local pay scales, an incubator strategy was adopted (Nathan 1999, Royal 2000).

Operating as part of Matsushita’s subsidiary Panasonic, the Digital Concepts Center was designed to promote the development of next-generation digital, networking, and Internet products and services (Nathan 1999). Its first office—a 20,000-square-foot center in Cupertino—features a digital entertainment center in the lobby, common areas, room for support staff, and informal lunch time lectures from attorneys, venture capitalists, and other experts. Offices are equipped with desks and Internet access. start-ups also benefit from on-site consultation from advisors and a network of relationships with the professional service and capital investment communities. The incubator’s first tenant, Dynaptics Corp.—a company that produces software for analyzing online consumer behavior—moved in during August 1999. By January 2000, the incubator housed six start-ups. A second office was opened in San Francisco, making a total of eleven incubated companies in the two locations by September 2000. Incubator facilities and services are provided to client companies for low-rent fees and 1% equity to help the incubator defray long-term costs. Tenants rent by the square foot at or below market rates, and they stay until they score their first big round of financing, which often takes less than a year (Business Wire 1999, Rae-Dupree 1999, Electronic News 2000, Eisenberg 2000, Royal 2000). Panasonic currently focuses on start-up technologies in four areas: 1) Home networking, 2) Wireless, 3) Software, and 4) Digital television/multimedia.

The \$50 million venture fund backs incubated companies for their first round of financing—generally between \$200,000 and \$500,000—and later at the mezzanine stage. It does not include investors outside of Matsushita (*i.e.*, it is wholly owned by the corporation), yet can make direct equity investments without the approval of the company's president. About 50% of the venture arm's investments are in incubated companies, and the remaining 50% are non-incubated technology investments. Matsushita reserves the right to invest up to 10 percent of a start-up's first institutional round of funding and has exercised that option with every company so far (Eisenberg 2000, Richards 2000). According to the PDCC website ([www.panasonicventures.com](http://www.panasonicventures.com)), the venture fund is unique in that its professionals are active partners who are financially motivated to ensure the success of portfolio companies (unlike many corporate venture funds). Panasonic Ventures maintains a commitment to minority investments and non-invasive, non-exclusive company relationships.

As with most corporate-sponsored incubators, PDCC's goal is not immediate return on investment. According to Ronald Richard, president of Panasonic Strategic Ventures Co., the incubator seeks companies that have a particular technology that can be incorporated into Matsushita's operations. This role is accomplished through the incubator's third component, the Technology Partnerships division, which connects Matsushita with its incubator operations and brings innovative technologies inside the corporate parent (Electronic News 2000, Richards 2000). Technology Partnerships also functions to introduce start-ups to new market opportunities worldwide. All portfolio companies, for instance, gain specially discounted Web-conferencing services from Raindance, a partner company with Panasonic.

Other incubator partners include the Software Business Cluster (SBC) and the Women's Technology Cluster (WTC), which expand PDCC's entrepreneurial community and the resources available to its portfolio companies. The SBC is a San Jose-based non-profit incubator for Internet or software technology businesses, whose facility and business services program served as PDCC's model. The incubator has seen considerable success for its graduated companies, and in May 2000, the National Business Incubation Association named it "National Incubator of

the Year.” Based in San Francisco, the WTC houses a non-profit incubator focused on helping women entrepreneurs launch successful Internet and IT businesses. As part of the partnership, PDCC shares office space, incubator suites, and program resources with the WTC. Panasonic’s start-ups also gain access to WTC business development seminars. In return, Panasonic may invest in WTC companies that meet its criteria. ([www.panasonicventures.com](http://www.panasonicventures.com))

The Matsushita incubator is characterized by a distinct division that separates the Japanese manufacturing corporation’s “old economy” culture from its burgeoning community of “new economy” entrepreneurs. Client companies with high potential for strategic alliance with Matsushita may experience a rapid and successful exit. Entrepreneur David Thomas obtained office space at PDCC for his second start-up, IntAcct, a web-based accounting company. Having raised \$10 million, IntAcct moved out after three months with plans to go public, and Thomas sits on the PDCC board. Matsushita is considering his accounting services for internal use (Royal 2000).

## Scottish Technology and Research Centers

(<http://www.scottish-enterprise.com>)

The Scottish Technology and Research (STAR) Centers were established by Scottish Development International (SDI) – a joint body created by Scottish Executive and the Scottish Enterprise, the nation's main economic development agency – to aid Scottish businesses seeking a foothold in the U.S. market. The key priorities of Scottish Enterprise are to provide a range of high-quality services for: (1) helping new businesses get underway; (2) supporting and developing existing businesses; (3) facilitating acquisition of entrepreneurial knowledge and skills; and (4) helping Scottish businesses develop a strong presence in the global economy.

The four US-based STAR Centers (Orlando, Florida; Houston, Texas; Herndon, Virginia; and San Jose, California) help accomplish the agency's fourth priority. Each center offers four key services geared primarily toward technology companies: (1) virtual offices; (2) incubator offices; (3) transit offices; and (4) research facilities. The centers are staffed entirely by local business personnel, and offer advice on setting up permanent bases in the U.S.

Client companies receive research assistance in identifying the market information required for generating successful businesses in the US. Research includes support in joint venture identification, matchmaking services, market intelligence and orientation, and business development support. Prospective companies first receive virtual offices, which offer a U.S. mailing address and telephone line. Incubator facilities feature fully furnished offices, which are rented on short-term leases of up to 18 months. Each STAR center also features transit offices, or "hot desk" sites, for Scottish companies who are working in the U.S. market temporarily, or for professionals visiting on business or attending conferences.

An integral part of incubator services is the Market Access Programme (MAP), which offers Scottish companies a flexible, low-risk method of developing international business opportunities in key markets.

Using a global network of in-market managers, MAP provides initial guidance and advice from SDI and local Export Partnerships, an assessment of market entry strategy, including e-business conditions, up to five days assistance from a market-based manager, and up to £600 toward the cost of visiting a market or bringing key trading partners to Scotland ([www.scottish-enterprise.com](http://www.scottish-enterprise.com)).

Monthly fees for incubator office space vary by location:

- Orlando, Florida: \$500 - \$650
- Houston, Texas: \$450 - \$1200
- Herndon, Virginia: \$880 - \$1200
- San Jose, California: \$1080 - \$1800



## **Softbank Corp. (<http://www.softbank.com>)**

With investments in more than 600 Internet-related companies, Tokyo-based Softbank completes the list of giant holding companies also occupied by CMGI, Safeguard Scientifics, and ICG. Softbank was founded as a software distributor in 1981 by Masayoshi Son, hailed by many as “the Bill Gates of Japan.” The company went public in 1994, and two years later bought 80% of Kingston Technology (sold in 1999) and a stake in Yahoo!, which proved to be a tremendous success story (Hoover’s Online 2002c). In 2001, Softbank suffered a \$448 million loss for six months of operations. In response, the company canceled its plans for major investments in Europe and Latin America. It also shut down eight of 11 overseas offices and laid off 70 employees (2/3 of its international office staff). With this withdrawal, Softbank left a substantial web of investments in the U.S. to “redefine themselves” (Healy 2001d).

Among these investments was Softbank Venture Capital, a California-based group started in 1996 that led many of Softbank’s best deals. Softbank Venture Capital managed all of Softbank’s U.S. private equity activities, providing funding for Internet companies in all stages of development, from seed funding to mezzanine rounds. The VC group also offered an “incubator program” to serve the needs of its entrepreneurs by providing access to its management team, experienced staff, and industry luminaries (*Business Wire* 2000d).

Before Softbank Corp. pulled out of its U.S. investments, Softbank Venture Capital had opened “Hotbank” incubators in Silicon Valley and in Superior, Colorado. In addition to providing services, Hotbank was established to provide portfolio companies with accelerated deal-making with Softbank’s over 300 companies and affiliates worldwide (*Business Wire* 2000g). Relying on Softbank’s network, the incubator did not have an internal staff of lawyers, accountants or shared executives, and did not take extra equity shares in client companies (Beauprez 2001).

After Softbank Corp.’s U.S. pull-out, the company continued to be a major investor in Softbank Venture Capital. To help dissociate itself from its former owner, the venture capital group renamed itself “Mobius

Venture Capital,” which continues to provide early-stage investments and the Hotbank incubator environment. Mobius diversifies its investments into seven major sectors: 1) Communications systems, software and components; 2) Consumer and small business; 3) Enterprise applications; 4) Fund-to-fund; 5) Healthcare informatics; 6) Infrastructure software and services; 7) Professional services.

Mobius offers “early-stage company facilities” that include office space, computers, telephones, and access to in-house facilities and support staff. Under Mobius, the Hotbank incubator continues to provide entrepreneurs with expertise and ready-made resources in recruiting, legal, financial, IT, investment and human resource issues. The firm’s investment strategy extends to companies at any stage of development (with emphasis on early-stage companies). In approximately two-thirds of their deals, theirs is the first venture money in the deal. Investment size depends on the stage of the company and the total amount raised, but in general, Mobius is the lead investor and looks to own a sizeable piece of the company post-financing (minimum 20%). Early-stage deals typically involve \$2 to \$5 million investments, while later-stage deals raise as much as \$50 to \$100 million. Geographically, 65% of the firm’s investments are in California, 20% are outside of California, but west of Colorado, and 15% are in the New York, Washington D.C., and Boston areas. Lastly, Mobius makes a point to avoid funding competitors of existing portfolio companies and will reject submitted business plans that would conflict with current holdings.

In addition to Mobius, Softbank Corp. has affiliation and equity with three other U.S.-based investment firms – Seed Capital Partners, Ignition Partners, and GrandBanks Capital. Seed Capital Partners is an early-stage venture fund that invests primarily in companies addressing communications infrastructure and enterprise software opportunities in the northeastern U.S., Canada, and Israel. The firm makes a point of taking active board seats in all investments and helps recruit top-tier management and other board members, occasionally taking interim operating roles when appropriate. Their entrepreneurs gain access to the Softbank network of companies and affiliates worldwide. Like Mobius, Seed Capital strives to be the first venture firm to invest in a company,

with approximately \$250,000 - \$5 million in first-round financing. Over the lifetime of a deal, Seed Capital may invest between \$5 million and \$15 million in a portfolio company. The firm is comfortable investing in pre-product, pre-revenue companies, with emphasis on the following four sectors: 1) Electronic to photonic migration; 2) Intelligent infrastructure; 3) Content aware networking; 4) Biotech and bioinformatics.

Ignition Partners is a Bellevue, Washington-based early-stage venture capital firm founded by former Microsoft and McCaw Cellular senior executives. Focused on communications and information technology, the firm emphasizes the development of software, telecommunications, network infrastructure, and particularly, wireless Internet. Its involvement ranges from supporting select entrepreneurs in residence in the formation of their companies to providing seed capital for series A and some series B rounds. The firm invests anywhere between \$1 million and \$15 million in start-ups, aiming to lead most rounds and hold greater than 20% equity (Goncharoff 2000). In addition to funding, Ignition provides its partner companies with access to world-class technology and business development, marketing, strategic, and operational expertise.

Grandbanks Capital is a venture capital firm, established early in 2001 in partnership with Softbank Corp. and Mobius Venture Capital. Headquartered in Massachusetts, with offices in New York City, the firm funds early-stage technology companies primarily in the eastern U.S. Like Softbank's other VC/incubator affiliates, Grandbanks takes advantage of Softbank's extensive network of companies as a strategic resource for its investments.

Another U.S.-based Softbank Corp. incubator, also called "Hotbank" but not associated with Mobius Venture Capital, was launched in February 2000 through the affiliate I-Group. Based in Boston's historic Oliver Ames Mansion, the I-group's Hotbank technology incubator boasted a unique package of "mentor capital" services, including management, partnership, investor, and recruitment mentoring. In addition, companies gain access to Softbank's *nebatsu* network of more than 130 high tech and Internet companies, and a sustained evergreen venture

capital fund (Business Wire 2000a). In exchange for 25% - 75% equity, the incubator invested up to \$2 million in each client company (Morton 2000). Originally set up to house between 10 and 12 startups per year, I-Group/Hotbank had incubated only 6 companies by early 2001, one of which, ClubTools.com, shut down that February after failing to attract additional investments. Following the market slowdown for Internet incubation, I-Group managers shifted strategy from B2B and web software businesses to the web infrastructure sector – fiber-optics, switches and other software, and broadband distribution (McCormick 2001). Despite this change in strategy, the I-Group incubator did not survive the poor investment climate. Incubated companies were expected to go IPO after six months; when this wasn't happening, Hotbank was spending "big money" trying to make them into real companies. After the failure of its incubator, I-Group continued to do early-stage venture funding (Healy 2001b).

## **Incubator America (<http://www.incubatoramerica.com>)**

Based in Arlington County, Virginia, Incubator America was founded in 1999 to offer international companies (from any nation) a direct link to American enterprise. The incubator is affiliated with George Mason University's Enterprise Center, and receives funding from Arlington County. Prospective companies are expected to have a proven track record in their home countries before being accepted into the incubator, which has attracted firms from Finland, Israel, Japan, and Russia (Dougherty 2000). To qualify, candidates must be international businesses (founded outside the U.S.) that have been in the U.S. for less than two years.

Tenants in Incubator America receive furnished office suites ranging from 130 to 410 square feet for rates starting at \$1400 per month. The facility also features mail delivery, conference rooms and a kitchen area. For an additional fee, companies may receive an additional package of services that includes clerical support, voice mail, parking, and translation services. Incubator America offers direct access to university and technical resources, exposure to potential business partners and clients, on-site administrative support personnel, and ongoing evaluation of business development plans. Client companies receive introductions to the incubator's regional business network, as well as monthly strategic advisory sessions from an on-site educational services manager.

In addition, client companies receive services that meet the unique needs of international firms, including cultural orientation. Topics covered include the unique features of doing business in America and in the Washington, D.C. region and cultural variations in business practices, negotiating techniques, and industry-specific expectations. Monthly advisory sessions may cover topics including opening a commercial bank account, drafting a product distribution pre-feasibility study, and evaluating selected organizations for networking utility ([www.incubatoramerica.com](http://www.incubatoramerica.com)).

## **International Business Incubator (<http://www.ibi-sv.org>)**

Opened in San Jose in 1996, the International Business Incubator (IBI) is perhaps the most well known of U.S. incubators that provide entrepreneurial, cultural, business development and financial services for foreign businesses. The non-profit facility is sponsored by a collaboration of business, government and academic organizations. It is designed to accelerate a company's acclimation and understanding of U.S. business practices and culture, and to meet potential strategic and professional partners.

IBI clients receive services through a four-step program. After completing an application and receiving approval, new clients receive a pre-arrival program that seeks information on status of legal efforts, the setup of a U.S. entity, the processing of visas, the opening of a U.S. bank account, plans for hiring staff and extent of market analysis. Upon arrival, IBI provides an arrival program that includes documents, information on local events ranging from English classes held within the IBI to Silicon Valley network meetings and cultural events held in neighboring cities. For an additional fee, clients may also receive a detailed and thorough 1-2 day orientation workshop. Business representatives are assisted in understanding local business laws and practices through an advising program that utilizes local experts, IBI staff, sponsors and advisory board members.

Once established at the incubator, resident businesses receive fully furnished office space for a single fee, which also includes consulting services, referrals, and use of four conference rooms. The program offers informational seminars on U.S. marketing, tax, legal and accounting issues, meetings with IBI staff for "brainstorming and review" purposes, opportunities for interns to work at low or no cost, and networking. Clients rent on month-to-month leases, with many staying at IBI for up to two years.

Like many international incubators, IBI also provides services for "virtual clients," that is, businesses that are not yet ready to open an office in the US. The incubator's "Virtual Office" package includes a Silicon

Valley address, telephone with voice mail, personalized phone answering, and mail forwarding ([www.ibi-sv.org](http://www.ibi-sv.org)).

In 2000, IBI also took on the role of being a “prototype incubator” at which foreign companies could learn to set up their own incubators. The Korean and Scottish governments were the first to contact IBI for lessons in incubation. By August 2000, IBI was incubating six incubators from five countries: (1) The Korean Software Incubator; (2) The Scottish Technology and Research Center for the University of Glasgow (see profile above); (3) Business Café, a for-profit Japanese incubator; (4) U.S.-Japan Business Incubation Center (see profile above); (5) ScanXelerator, a Scandinavian incubator that focuses on wireless companies; and (6) India Infotech Center, a project of Software Technology Parks of India (Bechard 2000).

## CHAPTER 3 REFERENCES

- Bechard, Theresa  
2000. "Local organization serves as incubator for incubators." *Business Journal*, August 25, 2000, pg. 28.
- Brown, Ken  
2000. "Incubator to boost Korea's tech stock." *Business Journal*, December 1, 2000, pg. 17.
- Business Wire  
1999. "Panasonic Digital Concepts Center (PDCC) Launches Panasonic Internet Incubator; Panasonic's New Technology Incubator Provides Early-stage Companies with Tools for Success." October 20, 1999.  
  
2000. "Irish High Tech Firms are Targeting Boston Area." March 9, 2000.
- Dougherty, Carter  
2000. "Local incubator focuses on foreign firms." September 11, 2000, D3.
- Eisenberg, Bart  
2000. "Turning Startups into Partnerships: Matsushita's Silicon Valley Business Incubator." *Software Design: Pacific Connection*, September 2000.
- Electronic News  
2000. "Matsushita Intensifies Venture Effort." January 24, 2000.
- InfoDev (The Information for Development Program)  
2002. Interview with Barbara Harley. *The eXchange Newsletter*, Issue 11, Jan-March 2002. <http://www.infodev.org/exchange/exch11/2exch11.htm>, accessed 9/10/02.
- The Irish Times  
1999. "Enterprise centre helps new Irish technology firms in Silicon Valley." October 1, 1999, pg. 59.
- Iritani, Evelyn  
2000. "Japan giving its start-ups a U.S. education, with limited success." *Los Angeles Times*, September 10, 2000, pg. C1.
- Kennedy, John  
1999. "BF Enterprise Ireland to Open Hi-tech Incubator in Boston." *Global News Wire*, December 16, 1999.
- Lacy, Sarah  
2002. "Down economy gives boost to Enterprise Ireland incubator." *Silicon Valley/San Jose Business Journal*, July 26, 2002, pg. 6.



- Lillington, Karlin  
2001. "Enterprise Ireland's incubator role shifts as Irish firms grow up." The Irish Times, May 4, 2001, pg. 60.
- McKay, Niall  
1998. "Ireland, the Silicon Isle." Wired News, October 29, 1998.
- Morgan, TaNoah  
2002. "Providing haven for new business in a foreign land; Howard County program would create international network of incubators." The Baltimore Sun, June 24, 2002, pg. 12C.
- Nathan, Richard  
1999. "Matsushita hopes Silicon Valley links can boost its R&D." Research Technology Management, v. 42 no. 2, pg. 4-5.
- Rae-Dupree, Janet  
1999. "How Panasonic Learns from the Hatchlings in Its Incubator." Business Week e.biz, August 24, 1999.
- Royal, Weld  
2000. "Something Old, Something New." IndustryWeek, June 12, 2000.
- Yamada, Noriyasu  
2000. "US-Japan Technology Exchange." JETRO New York Miscellany. <http://www.jetro.org/inside/ioMar2000.html>, accessed August 14, 2002.

# BUSINESS INCUBATORS IN DEVELOPING AND TRANSITIONAL ECONOMIES OF THE MIDDLE EAST AND CENTRAL ASIA

## Introduction

Economic competitiveness has become the criterion for survival and growth in the global marketplace. Moreover governments in transitional as well as emerging and developing economies increasingly are supporting creation of business incubators to provide local entrepreneurs with training in business development and access to market opportunities. The goal is to strengthen their own economies through the introduction of new businesses. Chapter 4 of this report describes business incubation and business development activities occurring in a selective number of countries in Central Asia and in the Middle East as requested by the Department of Commerce Office of Technology Policy. For this reason, we do not include business incubators and business development support networks in Europe, Asia, Australia/New Zealand and Latin and South America, although many interesting developments are occurring in those countries as well.

Business incubation strategies currently under development in transitional economies reflect economic development goals that are somewhat different from those in developing and emerging economies. Specifically, the task is to shift away from deeply entrenched ideas, values, legal and financial structures, and other elements of previously state-controlled economies toward those necessary for an economy based to varying degrees on free market capitalism. Consequently, it is necessary to encourage growth and development of an entrepreneurial spirit, provide training and awareness about basic business organization forms, operations and competition, and restructure the legal, regulatory, banking and other elements. Business incubators and business development pro-

*“... governments in transitional as well as emerging and developing economies increasingly are supporting creation of business incubators...”*

grams seek to provide such training and to assist governments in restructuring efforts.

Developing and emerging economies, on the other hand, have slightly different needs with regard to developing economic systems based on free market capitalism. In these situations, the task more often than not is to strengthen an existing informal capitalist economy and to nurture its growth and expansion. Business development and business incubation systems in these countries often are established to provide access to technology, improve production processes, expand markets, and provide a range of other assistance to entrepreneurs and small- and medium-sized companies (SMEs). Rather than re-orient the populace toward entrepreneurship, the emphasis is more often on strengthening the existing base of entrepreneurs and helping them to achieve business growth.

Thus, in contrast to the direct and indirect profitability strategies associated with business incubation in the US presented in Chapters 2 and 3 of the report, business incubators established in countries with transitional and developing market economies function as important strategic elements for national economic development. In most cases, business incubators in transitional and developing economies are established with assistance from outside international and foreign sources, including the United Nations, the World Bank, the US Agency for International Development (USAID) and others. The remainder of this section provides short overviews of business and economic development activities underway through these international programs. The Appendix to Chapter 4 contains descriptions of ongoing business and economic development strategies, business incubators and incubation networks, and other data that is specific to each country.

*“... Business incubators established in countries with transitional and developing market economies function as important strategic elements for national economic development. ”*

## Overview of International Economic Development Agencies and Their Roles in Fostering Business Development in the Selected Countries

Business incubators have proliferated as a strategy for global economic development. In local and regional tiers of government, policy makers have increasingly turned to business incubation as a means of achieving a number of objectives, including:

- combating unemployment,
- raising rates of enterprise formation,
- upgrading the technological standing of a given locality,
- commercializing university and other laboratory research,
- assisting socially disadvantaged groups, and
- expanding the infrastructure.

Recent globalization of markets has both broadened the opportunities for small and medium enterprises (SMEs) in developing countries and sent strong signals that those countries urgently need to strengthen their economic competitiveness. Management and technological systems must be promoted so that product and process technologies of existing SMEs can be upgraded for higher profitability and so that new ventures can flourish. To do this, local human resources must be developed, particularly in countries where economic development has so far been largely based on foreign investment or on government intervention, through state-owned enterprises, or where recession has led to high unemployment.

Once a regulatory framework conducive to business development is in place, business services must be provided in order to create a favorable environment for entrepreneurship and the expansion of SMEs. Such services provide entrepreneurs with access to financing, market information, technology, training support, quality standardization, and certification. They also encourage the formation of inter-firm linkages and nurture start-ups and recently established firms by providing office space on a shared, affordable basis within a business incubation facility.

International development agencies play a significant role in providing support to small business, and there are several important international organizations operating in Central Asia and the Middle East to support small businesses. The following paragraphs briefly highlight a number of development organizations, including the World Bank, US Agency for International Development (USAID), United Nations Industrial Development Organization (UNIDO), United Nations Educational, Scientific and Cultural Organization (UNESCO), UNITED NATIONS DEVELOPMENT PROGRAM (UNDP), United Nations Development Fund for Women (UNIFEM), and the Eurasia Foundation.

### **World Bank**

The World Bank, through its International Finance Corporation and in partnership with the Japanese-owned Softbank (see profile in the Appendix to Chapter 3), has set up a special project, Softbank Emerging Markets (SBEM) dedicated to financing Internet-related business incubators in 100 emerging markets. In terms of 15-20 year loans, the World Bank usually provides 30-40% of the entire project budget, and the government of the borrower country or the agency undertaking the project on behalf of the government is responsible for the loan.

*“International development agencies play a significant roll in providing support to small business...”*

### **The International Finance Corporation (IFC)**

IFC is a member of the World Bank Group and is headquartered in Washington, DC. It shares the primary objective of all World Bank Group institutions: to improve the quality of the lives of people in its developing member countries. IFC promotes sustainable private sector investment in developing countries as a way to reduce poverty and improve people's lives.

Established in 1956, the IFC is the largest multilateral source of loan and equity financing for private sector projects in the developing world. It promotes sustainable private sector development primarily by:

- Financing private sector projects located in the developing world.
- Helping private companies in the developing world mobilize financing in international financial markets.
- Providing advice and technical assistance to businesses and governments.

### ***United States Agency for International Development (USAID)***

USAID is an independent federal government agency that receives overall foreign policy guidance from the US Secretary of State. The agency works to support long-term and equitable economic growth and to advance US foreign policy objectives by supporting:

- economic growth,
- agriculture and trade;
- global health; and,
- democracy, conflict prevention and humanitarian assistance.

With headquarters in Washington, D.C., USAID maintains field offices around the world. USAID works in close partnership with private voluntary organizations, indigenous organizations, universities, American businesses, international agencies, other governments, and other U.S. government agencies. USAID has working relationships with more than 3,500 American companies and over 300 U.S.-based private voluntary organizations. USAID provides assistance in four regions of the world:

Sub-Saharan Africa: Africa faces the greatest development challenges in the world, however positive political and economic changes are increasing opportunities for peace and prosperity throughout the continent. USAID works with African partners to provide opportunities to make a better life, to prevent costly crises, and to fuel growth.

Asia and the Near East: USAID carries out foreign assistance programs that support key US foreign policy interests, including sustained

economic and social progress for all the peoples of the Asia and Near East regions. USAID's programs strive to:

- Secure a comprehensive peace settlement in the Middle East;
- Strengthen trade and technology links;
- Foster economic growth and agricultural development;
- Strengthen democracy and good governance;
- Reduce gender disparities;
- Stabilize population growth;
- Protect human health;
- Protect the world's environment; and
- Build human capacity through education and training.

Latin America and the Caribbean: This region has experienced significant progress in recent years. A decade ago, USAID's programs operated amid a debt crisis, Central American conflicts, cold war divisions, astronomical levels of inflation, a decade of declines of GDP per capita, and a decade-long failure of LAC countries to invest in their social and physical infrastructure. Throughout the region, the 1990s have brought higher standards of living, a return to positive economic growth rates, a consolidation of macro-economic reforms, and social investment that has yielded significant reductions in both fertility and child mortality rates. The shift from dictatorships to democratic governance has also been consolidated over the last ten years as there have been first-time-ever transitions of power from one democratically elected government to another in credible and successful elections, reductions in human rights violations, and a strong start toward building inclusive, democratic institutions.

Europe and Eurasia: Assisting the formerly communist nations of Europe and Eurasia (E&E) in their transition to market-led democracies continues to be of vital interest to the people of the United States. The faster and more sustainable this transition, the higher the chances are for regional stability, enduring links between our peoples, and mutually beneficial economic growth. The development challenge in E&E remains

one of transforming previously authoritarian, centrally planned societies into western-style market-led democracies with vibrant economies, open political systems, and a strong civil society. Careful monitoring of program and country progress, however, has revealed that the transition process has not proceeded at the same pace, or in the same way, from one E&E sub-region to another

USAID also supports business incubators in specific countries as part of its small enterprise promotion, credit, and entrepreneurial development programs. For this reason it has created a number of small business assistance centers in several countries. The following countries profiled in the Appendix to Chapter 4 (below) receive USAID funding or promotion for business incubation and development programs: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.

### ***United Nations Industrial Development Organization (UNIDO)***

UNIDO offers a number of services in helping establish business incubators in developing countries:

- Organization of awareness seminars describing the roles of the public sectors in the establishment of business incubators.
- Organization of study tours to business incubators operating in developed and/or emerging economies.
- Assistance in background analysis to assess the strengths and weaknesses of proposed locations, to define business incubator objectives, identify sponsors, site, and target market.
- Assistance in formulation of a business plan that specifies the design, operational, financial, physical, service, legal, and administrative framework according to selected objectives.



- Advice on management practices for business incubators and follow-up services.
- Auditing of business plans and on-going business incubator activities. Provision of international linkages for exchange of experience and for cooperation on research and product development between business incubators established in industrialized countries and those in developing countries.
- Restructuring existing business incubators and/or assisting in the creation of new ones, where new companies, originating from international cooperation, will be located. This innovative support system aims at facilitating new start-ups by providing an efficient physical and technical environment, where technical skills available in industrializing countries will be matched with know-how and capital of industrialized countries and interested in establishing their industrial activities, or part of them, in developing economies.

UNIDO has promoted business incubation programs both in the former Soviet States and the Middle East. It has also assisted the Bahrain Development Bank to set business incubators in Bahrain and ensure that they can operate efficiently and effectively. UNIDO is also assisting in the training of potential incubator clients through an Entrepreneurship Development Program conducted by various institutions such as the University of Bahrain, Bahrain Training Institute with the support of experts from the Entrepreneurship Development Institute of India.

UNIDO has helped establish 3 pilot incubation centers in Uzbekistan, one technology oriented and two industrial ones, based on local conditions. This incubator program is linked to investment promotion, privatization and other development schemes as appropriate, and forms part of a national strategy for small enterprise development.

### ***United Nations Educational, Scientific and Cultural Organization (UNESCO)***

In the fight to eradicate poverty and to create meaningful, dignified jobs for all, UNESCO is launching a program to establish business incubators which will nurture persons who wish to develop sustainable, profitable businesses utilizing cultural-based knowledge, skills and practices. The objective of this initiative is to employ cultural activity as a basic building block for economic development through the Asia and Pacific region by promoting the widespread establishment of sustainable small-scale industries utilizing existing but underdeveloped traditional skills. In the process, local knowledge will be validated and protected, thereby restoring to communities the means to sustain the development gains achieved through the program.

The UNESCO Small Business Incubators for Cultural Industries are designed to address directly and specifically the problems encountered by those wishing to set up culture-based enterprises. UNESCO's Business Incubators for Cultural Industries will focus on training, advice, credit, space, and equipment to create the competencies among cultural workers for them to survive by establishing themselves in sustainable cultural industries. Examples of cultural industries include music, theater, dance, and film. In this category, local music traditions have considerable potential for development as profitable industries. Architecture, painting, fine arts (painting and sculpture), household items, graphic and writing for advertising, publishing and information industries also considered potential for development as profitable industries.

### ***United Nations Development Program (UNDP)***

UNDP is the UN's global development network, advocating for change and connecting countries to knowledge, experience and resources to help people build a better life. UNDP is on the ground in 166 countries, working with them on their own solutions to global and national

development challenges. As they develop local capacity, they draw on the people of UNDP and its wide range of partners. UNDP helps developing countries attract and use aid effectively. In all its activities, UNDP encourages the protection of human rights and the empowerment of women.

### ***UNDP in Europe and in the Former Soviet States***

The Regional Bureau for Europe and the Commonwealth of Independent States (RBEC) administers the UNDP's programs in Central and Eastern Europe and the Commonwealth of Independent States (CIS), playing an important role in the transition process through empowering people, organizations and governments to promote sustainable human development.

Working under a mandate issued by the UN Secretary-General, RBEC (then the Regional Directorate for Europe and the Commonwealth of Independent States – RDEC) began the process of establishing offices and programs in the CIS states in 1992. Today, of the 30 program countries in the RBEC region, there are UNDP country offices in 23 of them: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Yugoslavia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, The Former Yugoslav Republic of Macedonia, Moldova, Poland, Romania, Russian Federation, Tajikistan, Turkey, Turkmenistan, Ukraine and Uzbekistan. In addition, following the Kosovo crisis, in October 1999 a Program Office was established to facilitate UNDP's reconstruction and rehabilitation activities in that UN-administered territory. The RBEC Regional Support Center (RSC) was established in 1997 in Bratislava, capital of the Slovak Republic which, apart from administering the country programs for countries where UNDP has no office (Czech Republic, Hungary, Malta, Slovak Republic, Slovenia and St. Helena), provides management support services for all program countries in the region.

The Sub-Regional Resource Facility (SURF) represents new organizational structure of UNDP BDP (Bureau for Development Policy) to reorient BDP towards serving the field, provide policy support to country offices in the region and Regional Bureaus, and outsource expertise to

the field. Policy specialists are clustered in SURFs servicing several country offices and managed by SURF Boards. BDP and Regional Bureaux sign annual Service Agreements to ensure policy relevance and effective support.

The RBEC SURF, located in Bratislava, Slovak Republic, has been operational since February 1999, providing a range of specialized services to UNDP country offices. The main mission of the SURF is to tap collective knowledge, foster learning and sharing, improve performance and capacity, thus empowering country offices. The SURF service dimension is to respond to queries from country offices, discuss issues and challenges, share comparative experiences, identify expertise, align corporate policy and share information.

The UNDP goal “to strengthen the position of UNDP as a trusted and leading partner of program countries in overcoming their development challenges through swift, high-quality support in proven areas” (“The Way Forward, the Administrator’s Business Plan 2000-2003) is expressed in six priority focus areas: democratic governance, pro-poor policies, environment and sustainable energy, crisis prevention and recovery, Information and Communication Technologies for Development (ICT4D), HIV/AIDS, the latter two being special corporate initiatives. Besides supporting the corporate plan, the transformation in RBEC is being undertaken with the primary objective of creating the best enabling environment to support the country offices in resource mobilization and operational assistance.

RBEC supports the unique process of transition to democratic, market-oriented societies throughout the region. Among the most visible initiatives supported by RBEC are: advisory services on economic reform, particularly public-administration, the advancement of ombudsman and national human rights institutions in terms of advocacy, experience-sharing, institution building and policy making; development of poverty alleviation strategies at the national level and significant contributions to poverty research at the regional and sub-regional level; and the establishment of Gender-in-Development units and action plans to follow-up the Fifth World Conference on Women in Beijing.

In the area of post-conflict assistance, UNDP is active in Yugoslavia, its former republics, Tajikistan and Georgia. UNDP is promoting national reconciliation and economic recovery at the local level in the most war-affected areas through activities in the areas of employment rehabilitation, small infrastructure rehabilitation, private sector development and humanitarian support to the most vulnerable population. Many of these activities were undertaken with the important support of various donors such as Japan, EU, Italy, UK, Norway, Netherlands etc. As the situation in South-Eastern Europe and other RBEC countries has begun to stabilize, UNDP has increased its activities in strengthening local capacities to plan and implement economic development activities. UNDP has also undertaken activities at the regional level in the areas of early warning (Early Warning reports), human development (Human Development Reports), and regional policy development.

### ***UNDP in the Middle East and North Africa***

UNDP has offices in 17 countries in the Middle East and North Africa (or the Arab States region as it is referred to in UNDP). UNDP's work has ranged from capacity building to policy formulation, within a region that has diverse needs due to the varied economic base of the countries it serves.

UNDP–Arab States has succeeded in bringing to the forefront important social issues, which have become the subject for advocacy, debate, and policy development. In these efforts a focus has been placed on improved economic growth and enhanced governance, through capacity building, public participation, and legal frameworks. UNDP understands that an improved regulatory system and rule of law, in addition to a better developed human capacity, will enable the Arab States to improve their economic, as well as social and political environments to the betterment of their peoples and States.

Furthermore, UNDP realizes the importance of public awareness with regards to the status of development issues in the various Arab

States it covers. In that regard, the National Human Development Reports have become a feature of many Arab countries, and have had a significant impact on the development debate in the region.

UNDP works directly through its 17 country offices to target development assistance based on the needs of each Arab country, whether it is an LDC (Least Developed Country) or NCC (Net Contributory Country). UNDP also has a regional program for the Arab States, i.e. the Regional Bureau for Arab States, which focuses on programs of a regional nature with a minimum of three countries participating. For the current planning period of 2001–2004, the regional program is focusing its efforts on governance, global economic competitiveness, and information and communications technology (ICT).

Fostering partnerships throughout the region is an important objective in the UNDP–Arab States strategy. In this effort UNDP–Arab States will be upgrading its internet site in the near future. One of the goals of the new site will be to include information that will assist in fostering these partnerships, and provide a place for development related dialogue and networking.

### ***United Nations Development Fund for Women (UNIFEM)***

UNIFEM is the women's fund at the United Nations. It provides financial and technical assistance to innovative programs and strategies that promote women's human rights, political participation and economic security. Within the UN system, UNIFEM promotes gender equality and links women's issues and concerns to national, regional and global agendas by fostering collaboration and providing technical expertise on gender mainstreaming and women's empowerment strategies. UNIFEM's mandate is to:

- Support innovative and experimental activities benefiting women in line with national and regional priorities.
- Serve as a catalyst, with the goal of ensuring the appropriate involvement of women in mainstream development activities, as often as possible at the pre-investment stage.
- Play an innovative and catalytic role in relation to the United Nations system of development cooperation.

UNIFEM was created in 1976, in response to a call from women's organizations attending the 1975 UN First World Conference on Women in Mexico City. Today, UNIFEM works in over 100 countries and has 14 Regional Program Directors and a growing network of affiliated gender advisors and specialists in Africa, the Arab States, Asia and the Pacific, Central and Eastern Europe and the Commonwealth of Independent States, Latin America and the Caribbean.

### **Core strategies guiding UNIFEM's work**

1. Strengthening the capacity and leadership of women's organizations and networks.
2. Leveraging political and financial support for women from a wide range of stakeholders.
3. Forging new partnerships among women's organizations, governments, the UN system and the private sector.
4. Undertaking pilot projects to test innovative approaches to women's empowerment and gender mainstreaming.
5. Building a knowledge base on effective strategies for engendering mainstream development.

## ***UNIFEM in Central and Eastern Europe and the Commonwealth of Independent States***

Recent years have seen dramatic economic, political and social changes in Central and Eastern Europe (CEE) and the Commonwealth of Independent States (CIS). There is a distinct lack of information and expertise on gender economic issues. In the region, women are yet to be considered key players in economic and policy-making arenas and women are suffering as a result. In Kazakhstan, for example, women's salary averaged 61.5 per cent of men's in the year 2000 (Official Statistics for 2000, Kazakhstan, Women for Conflict Prevention and Peace Building in the Southern Caucasus, CIS Regional Office).

The challenges of post-conflict environments are another major concern for women in the region. Georgia's internal conflicts in Abkhazia and South Ossetia resulted in about 300,000 internally displaced persons, the majority of whom are women and their dependent children (Women for Conflict Prevention and Peace Building in the Southern Caucasus, CIS Regional Office).

Combating domestic violence, ending sexual harassment in the workplace, and the rehabilitation of victims of violence in post-conflict areas are particular priority in overall efforts to eliminate persistent violence against women. In Russia alone, 13,000 women die from domestic violence each year (Parliament Hearings in the State Duma of the Russian Federation in 2001, Regional Public Awareness Campaign for Women's Right to Life Free of Violence, CIS Regional Office).

In response to these challenges, UNIFEM's programs in the CEE/CIS region focus on three key areas:

1. Securing Women's Economic Rights: promoting economic justice for women in the context of privatization, globalization and regional integration processes.

2. Promoting Gender Justice and Peace: incorporating women's transformational leadership at all levels and increasing women's participation in peace-building.



3. Promoting Women's Human Rights: ending all forms of violence against women and addressing the gender dimensions of HIV and AIDS.

### ***Asia Pacific and the Arab States***

Women in the Asia-Pacific and Arab States region are facing a variety of economic, political and social challenges due to globalization and trade liberalization. The compound effects of socio-cultural prejudices, denial of women's equal rights and lack of access to knowledge, skills, resources and markets have kept women at the lower end of the job market, where they are often working in exploitative conditions. Trans-national crime, increased consumerism and demand for labor from low-income communities by high income communities are contributing a situation where women and children are key targets of trafficking. Women are increasingly leaving their own countries in search of employment in the newly industrialized Southeast and East Asian countries and the Mediterranean. This feminization of international migration is another growing challenge for the region. In response to these challenges, UNIFEM's program in the Asia-Pacific and Arab States region focuses on the following areas:

1. Strengthening women's economic capacity: engendering macro-economic frameworks and building the capacity of women to access markets in this era of globalization and economic transition; and supporting women's access to information and communication technologies (ICTs).

2. Promoting women's governance and leadership: supporting the implementation and monitoring of national action plans and strategies for gender equality, including the review of national budgets from a gender perspective; building capacity of women to act as transformative leaders in decision-making; and promoting the participation of women in peace-building processes in conflict and post-conflict areas, especially in Afghanistan and the Occupied Palestinian Territories.

3. Fostering women's human rights: supporting strategic interventions for the implementation and monitoring of the Convention to Eliminate All

Forms of Discrimination against Women (CEDAW); working to end trafficking in women and children; and supporting the rights of migrant workers

### ***The Eurasia Foundation***

The Eurasia Foundation is a privately managed grantmaking organization, established in 1993 with a grant from the United States Agency for International Development (USAID), dedicated to funding programs that build democratic and free market institutions in the twelve New Independent States (NIS) of the former Soviet Union — Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, the Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

Priority areas of work carried out by the Eurasia Foundation are: business development, business education and management training, economics education and research, electronic communications, media, NGO development, public administration and local government reform and the Rule of Law. Due to limited funding and alternate sources of support for these activities, the Foundation does not support scholarships for study abroad, health care-related programs, humanitarian aid, cultural events, psychological programs, historical research, scientific-technical training and research, or environmental initiatives (except as related to economic development or improving management of non-governmental organizations).

The Eurasia Foundation has established field offices in Moscow, Kiev, Tashkent, Saratov, Vladivostok and Yerevan. The Kyiv Regional Office is responsible for programs in Ukraine, Belarus and Moldova. Field office personnel, who are language and area qualified, are responsible for carrying out small grants programs on the ground. They also assist the Washington, DC office in evaluating larger grant proposals and in monitoring projects.

The Washington, DC office, staffed by language and area qualified specialists, is responsible for overall planning and management of the Foundation's programs. It works directly with US-based institutions seeking funding to carry out field programs in the NIS. The Foundation responds rapidly to on the ground, small grant needs through both its field office network and its Washington, DC headquarters.

The Eurasia Foundation actively seeks collaborative relations with other institutions and individuals interested in reform in the NIS. It welcomes private funds in collaboration with or in support of its work.

#### Small Business Loan Program

To supplement its efforts in economic reform and private sector development, the Eurasia Foundation has established small business loan programs in Armenia and Ukraine. The Foundation works through local commercial banks to provide financing for manufacturing and service sector projects that create jobs in small, private businesses.

Small business development via lending is a priority area for the Eurasia Foundation since small enterprises have a strong record as an engine of job growth. Throughout the transition economies of Eastern and Central Europe small businesses are a primary provider of new jobs, replacing those lost in the former state sector. To ignore the small business sector is to miss an opportunity to assist in this important element of economic growth.

The small business loan program has two primary objectives:

- To support the long-term development of the small business sector through local bank lending for capital expenditure investment and long-term working capital.
- To foster institutional development by implementing a credit analysis and collection methodology that allows participant banks to lend in the small business sector with low loan loss ratios and as a result, earn a profit.

The following are the program parameters:

- Businesses registered and operating in the countries where the program operates with fewer than 100 employees are eligible. (Joint venture or foreign-owned companies are not eligible.)
- Loans can be used to finance the purchase of equipment and raw materials.
- Loans are only made to support manufacturing, services, and agribusiness. (Loans are not made for the purposes of trade.)
- Loans are denominated in US dollars for terms up to two years with a maximum loan size of \$100,000.

The Eurasia Foundation's SBLP seeks to give its participant banks the skills necessary to lend profitably to small businesses engaged in manufacturing and the delivery of services. By learning the lessons of prudent lending, a bank will possess the institutional skills needed to continue lending to small businesses.

Since April 1999, the Foundation has been awarding grants in all five Central Asian republics: Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan. Foundation grantmaking is carried out in two locations: Tashkent, Uzbekistan, and Almaty, Kazakhstan, with branch offices supplying Foundation support in Bishkek, Kyrgyz Republic; Dushanbe, Tajikistan; and Ashgabat, Turkmenistan. With American directors and a staff of talented local individuals, real change and progress is occurring throughout this important region.

## Highlights of Business Incubation Activities in Central Asia and the Middle East

This section highlights some of the more innovative and interesting trends in business incubation and business development in the countries of interest in Central Asia and the Middle East.

### Former Soviet States of Central Asia

The majority of business incubators and innovation centers in the former Soviet States were created between 1999-2001. With privatization of the economic system, business incubation programs are helping to establish an industry that promotes the wide use and application of information technology by citizens, businessmen, and government in order to increase production and productivity and thus improve quality of life throughout the region. Armenia, for instance, represents a high value location in the world for Information Technology products. The quality-price ratio is perhaps even more attractive than in India, where a thriving computer services industry has grown up in recent years.

With the growth of a new market economy in the former Soviet States comes a host of new challenges. One of these challenges is the need to address the increasing role of women in the marketplace. Formerly, women lacked the resources and know-how to navigate the new market economy. However, business development programs may help to redefine the role of women in the region and ensure their participation in the new economic model.

Critical infrastructural elements must be established, however, in these countries, including:

- Telecommunications,
- Reliable access to the World Wide Web by the population at reasonable prices,

- High level political support of business incubators,
- Structural reforms in the economic and state administration apparatus,
- A sustainable influx of skilled laborers,
- Improvement of the banking system,
- Increased foreign investment,
- Legal and regulatory framework restructuring to support a market economy,
- Tax breaks for start-up businesses
- Training in modern business skills for all entrepreneurs
- Access to capital by building lender knowledge, strengthening of the banking system, and creating more credit liquidity through new financial instruments and micro-credit,
- A legislation system to protect civil and commercial rights,
- Establishment of cooperative relations with international and foreign organizations that support entrepreneurship,
- Teaching of market economy principles (management, marketing, etc.),
- Increased business knowledge in general, including business technologies and information providing.

## Middle Eastern Countries

In Israel the technological incubators program was set up in 1991 following a mass immigration from the countries of the former Soviet Union. The aim of the program was to provide a sheltered environment in which scientists, both new immigrants and veteran Israelis who have potentially marketable new inventions, could nurture their innovative ideas, while receiving financial support, expert business, subsidized office resources and exposure to interested investors. Although the incubators were not specifically for new immigrants, it has turned out that about half of the projects were based on the ideas of new immigrants and the other half on ideas of veteran Israelis. Thus, an important side effect of these incubators was their capability to serve as socialization mechanisms for foreign immigrants settling in Israel.

In several countries as well as the West Bank/Gaza region, cultural issues play an important role. One of these issues is on differing attitudes toward fixed-term leases of space. The traditional notion of business incubation implies that the rental of office space is guaranteed only for a fixed period of time, after which the start-up company “graduates” and rents office space at the going retail price elsewhere in the community. In West Bank/Gaza, on the other hand, inflated land prices and lenient tenancy laws combine to create a culture incompatible with the notion of short-term leases. This is also true in some areas of Latin America and the Caribbean, where laws dictate that a land or property owner cannot evict tenants, even if they are unable to pay rents and fees.

One possible solution for the success of business incubators in West Bank/Gaza and other countries is to establish ‘virtual incubators’ or ‘incubators without walls.’ These typically have no resident tenants and focus on the provision of counseling to client businesses, either through a university science department, research laboratory, or on an outreach basis to small ventures. Clients receive such services as part of their membership in the virtual incubator.

Other innovative activities are occurring elsewhere in the Middle East. For example, the United Arab Emirates is the first country in the

world to have built a complete Information Technology and Telecommunications Center. Known as Dubai Internet City, it is built inside a free trade zone and designed to lure information technology companies attracted by tax-free trading. Since the founding of Dubai Internet City, other such experiments have been initiated around the world.

In countries with low income per capita, such as Jordan, business incubation is playing a very strong role in the development and maintenance of a market economy that meets the needs of micro and small entrepreneurs, and particularly of women. Jordan's business development and incubation activities largely focus on improving women's education and business development opportunities.

In summary, business incubation and development activities in Central Asian countries and the Middle East focus on strengthening entrepreneurship and attracting foreign investment. While there may be some foreign corporate investment activities involved with strengthening technology-based start-ups, most business incubation activities appear to be the product of US and international development programs.

The countries profiled in the Appendix to Chapter 4 represent a broad spectrum of transitional and developing economies, with the exception of Israel which is a fully developed economy. We include Israel both because of several innovative incubator programs and because it is a strong economic node in that region. In a number of countries, notably Libya, Sudan, Morocco, Iraq, and Afghanistan, no business incubator activity was discovered.



**BUSINESS INCUBATORS IN DEVELOPING AND  
TRANSITIONAL ECONOMIES OF THE MIDDLE EAST AND  
CENTRAL ASIA****CONTENTS**

<b>Armenia .....</b>	<b>182</b>
<b>Azerbaijan .....</b>	<b>192</b>
<b>Bahrain .....</b>	<b>198</b>
<b>Cyprus .....</b>	<b>208</b>
<b>Egypt .....</b>	<b>211</b>
<b>India .....</b>	<b>225</b>
<b>Iran .....</b>	<b>231</b>
<b>Israel .....</b>	<b>233</b>
<b>Jordan .....</b>	<b>245</b>
<b>Kazakhstan .....</b>	<b>258</b>
<b>Kyrgyzstan .....</b>	<b>264</b>
<b>Lebanon .....</b>	<b>270</b>
<b>Pakistan .....</b>	<b>273</b>
<b>West Bank/Gaza .....</b>	<b>280</b>
<b>Republic Of Georgia .....</b>	<b>287</b>
<b>Saudi Arabia .....</b>	<b>290</b>
<b>Tajikistan .....</b>	<b>293</b>
<b>Turkey .....</b>	<b>297</b>
<b>Turkmenistan .....</b>	<b>302</b>
<b>United Arab Emirates .....</b>	<b>307</b>
<b>Uzbekistan .....</b>	<b>315</b>
<b>Yemen .....</b>	<b>322</b>

## ARMENIA

Data taken from:

<http://www.cia.gov/cia/publications/factbook/>

<http://www.mmdp.am/partnership/index.html>

<http://www.rferl.org/nca/features/2002/02/28022002092043.asp>

<http://www.amentech.org/StaticPages/Story.htm#Silicon Valley>

[Armenia](#)

<http://www.citiam.com/htms/WorkshopJan2002/>

[WorkshopJan2002.htm](#)

<http://www.unece.org/trade/entdev/bi-main.htm>

### General Information:

Located east of Turkey in Southwestern Asia, the Orthodox Christian country of Armenia was incorporated into Russia in 1828 and the USSR in 1920. Armenian leaders remain preoccupied by the long-standing conflict with Azerbaijan over Nagorno-Karabakh, a primarily Armenian-populated enclave, assigned to Soviet Azerbaijan in the 1920s by Moscow. Armenia and Azerbaijan began fighting over the exclave in 1988; the struggle escalated after both countries attained independence from the Soviet Union in 1991. By May 1994, when a cease-fire took hold, Armenian forces held not only Nagorno-Karabakh but also a significant portion of Azerbaijan proper. The economies of both sides have been hurt by their inability to make substantial progress toward a peaceful resolution.

**Population:** 3,336,100 (July 2001 est.)

**Ethnic groups:** Armenian 93%, Azeri 3%, Russian 2%, other (mostly Yezidi Kurds) 2% (1989)

**Languages:** Armenian 96%, Russian 2%, other 2%.

Even before independence, Armenia had a reputation as a Soviet “Silicon Valley”. Although one of the smallest republics in the former Soviet Union, Armenia was considered among the most technologically advanced. Within the former Soviet Union, Armenia specialized in de-

fense-related R&D. The republic's 130 scientific research institutes employed 20,000 people, half of whom worked at the Yerevan Research Institute of Mathematical Machines producing both computer hardware and software programs. There were about 200 research-development centers staffed by tens of thousands of highly qualified specialists who provided high-quality hardware and software products. Forming 1.5% of the whole population of the former USSR, Armenia produced 25% of the nation's information technology (IT) products, computers and electronic equipment.

Many high-precision instruments used in Soviet space stations and satellites were also designed and manufactured in Armenia. The republic was the third largest contributor of research in the USSR after Russia and Ukraine. It was second only to Russia in the number of scientists and specialists with degree-level qualifications per thousand of the population. The collapse of the Soviet Union devastated this scientific community, which was suddenly deprived of funds and purpose. The newly independent Armenian government, overwhelmed by the consequences of the 1988 earthquake, an economic blockade from Azerbaijan, and a catastrophic domestic energy crisis, could not offer any real support. As a result of massive emigration, the number of researchers shrunk by four-fold to just 5,000 in the five years between 1990 and 1995.

Today, even though foreign investors are attracted to the high quality of products made in Armenia, there are many obstacles impeding the development of Armenia's information technology (IT) sector. Experts point to a lack of financial resources, the monopolized telecommunication infrastructure, an unclear legislative environment, and management and marketing weaknesses within local companies, as well as an outdated curriculum in some local universities. The high-tech industry in Armenia requires a sustained influx of skilled laborers, but the majority of young university graduates in Armenia do not meet industry demands. Thus, Armenia may be faced with a shortage of skilled labor unless it revamps its educational system.

Businesses are looking to the government to solve some of these problems. One of the ways to help Armenia enter a market economy is

through the development of business incubators. In January of 1996 the Development Programs Ltd. (DP), a private consulting company that was registered in Yerevan to provide technical services to private clients and government agencies, engaged in developing and restructuring the republic's economy. Recognizing the need for foreign investment to develop the full potential of the Armenian economy, DP provides potential investors with risk assessments and expected returns from investment opportunities, as well as other financial analyses of the nation's operating environment. This includes a broad spectrum of activities ranging from conducting due diligence assessments of enterprises undergoing privatization, to assisting local enterprises and entrepreneurs in securing funding for their projects. DP has successfully placed itself in a position to help local businesses attract investments and to promote trade and sales activities of foreign investors in the Armenian market. DP offers the following services:

- 1) Financial Advisor Services: Clients receive advice on a number of business-related activities and regulations in Armenia, ranging from project financing and tax planning to banking and business transactions.
- 2) Marketing and Surveys: In the field of strategic marketing, services include surveys, market segmentation, advertising media, SWOT analyses, product positioning and core competency identification.
- 3) Legislative and Legal Services: Clients receive competent legal advice on all economic and social issues such as labor and business laws, as well as licensing and business regulations.
- 4) Technical Assistance and Commercial Services: Services include technical assistance and training in the fields of education, business, and economics. The commercial services rendered by DP include preparing feasibility studies, business plans, and strategies to expand trade and promote market development.

Since independence in 1991, the Republic of Armenia has embarked on an intensive program of democratic structural reforms for transition from a centrally planned to an open, mostly private, market economy. The principal objective has been to create strong macroeconomic prerequisites for private sector-driven economic growth. The first phase of the reforms has been characterized by the following:

- All producer and consumer prices and trade were liberalized. Today Armenia is the most open economy in the region with minimal import tariffs (0 & 10%), no export tariffs, and no quantitative restrictions (no quotas at all). Only a few price controls remain in public utilities and urban transport, which should be eliminated gradually through privatization of these sectors.
- Agricultural land and housing were privatized, and privatization of state enterprises is now nearly complete. All small enterprises and over 1700 medium and large enterprises have been privatized. Privatizations convey all property rights, including security of ownership and the rights to sell, rent, and pledge as collateral, in line with liberal economic concepts of private property.
- The essential infrastructures have been substantially rehabilitated and are ready to support the increasing production.
- A favorable and progressive taxation regime has been established and is working as an important instrument of fiscal policy. The level of taxation is one of the lowest among the transition economies.
- The Central Bank was established and the national currency introduced. A small, but stable banking system is working as an important instrument of monetary policy.

There are no exchange controls, and funds can be transferred freely in and out of Armenia.

- Social assistance has been rationalized from general subsidies to targeted assistance and directed primarily to vulnerable groups. The subsidies are transparent and budgeted so as to ensure effective control and affordability.
- The basic legal framework for the new economic system is in place, and is developing along the lines of liberal economic concepts of private property, freedom and sanctity of contract.
- The economy has been stabilized, as the annual inflation rate since 1998 has been in the low single digits, while the national currency, Dram, has been the most stable currency in the region for several years. The economy has been growing steadily since 1994 (around 5.5% annually), and this last year the growth rate was 9.6%. External trade has been diversified toward increasing trade with Europe, the Middle East and the United States, and exports are now growing around 12.7%. Both trade and current account deficits, although high, are declining steadily. These have been achieved despite the adverse influences of some serious external shocks and domestic tragedies.

Nevertheless, there have been weaknesses in the pattern of economic growth and distribution because poverty, unemployment (around 30%) and income inequality remain disturbingly high. This explains the rather limited public confidence in future economic prospects and high rates of emigration. Clearly, economic growth must have a much stronger ability for countrywide job creation in the private sector, and adequate investment in social infrastructure to ensure sustainability of economic growth.

Government has therefore refocused the economic reform program. Its principal direction is private investment to increase production

and productivity, and to enhance export driven economic growth. The strategic focus for implementation of this policy is completion of privatization of the remaining medium and large state enterprises, rapid mobilization of domestic and foreign capital to support productive investments in the growing private sector, and essential infrastructure in order to achieve and sustain high economic growth and employment.

For efficient mobilization and allocation of public resources, the strategy now calls for overhaul of the government machinery to reduce waste and corruption, reform administration of taxes and customs, and civil service reform to improve public governance. For mobilization of private resources, the strategy calls for a comprehensive and coordinated set of actions to improve the enabling environment for both foreign and domestic investors. The emphasis now is on microeconomic issues and on institution building to ensure major improvements in the business and investment climate.

As a result the business environment has dramatically improved. According to the 2001 Index of Economic Freedom published by the Heritage Foundation and the Wall Street Journal, Armenia is the “most open and investor-friendly” of the Newly Independent States. It has moved from 115th place in 1996 to 45th place in 2001, together with France and Poland, a spot well above its immediate neighbors. The same report ranks Turkey 105th, Georgia 108th, Azerbaijan 118th and Iran 151st out of 156 countries evaluated.

While in the past investors were understandably reluctant to invest in state enterprises, today around 80% of the economy is private, a growing trend, both in terms of GDP and employment. The new private enterprises are now modernizing the old and idle state factories (most of them now privatized), and starting new factories, this time in line with Armenia’s comparative advantage (technology-intensive, high-precision, and high value-added production and services), based on a highly skilled labor force.

It is in this context that the Master Strategy for development of the ICT sector in Armenia was prepared with the assistance of American, Euro-

pean and World Bank policy advisors and technical experts. The purpose is to develop an industry that promotes the wide use and application of information technology by Armenian citizens, businessmen and government in order to increase production and productivity and thus improve quality of life throughout the Republic. To oversee and enhance the strategic focus and enabling environment for this purpose, a Presidential Council for Information Technology was created last year. The Council is composed of senior government officials, local and foreign businessmen, academicians and NGO representatives, appointed by the President of the republic on a rotational basis. Since its establishment, the Council has striven to foster entrepreneurship to develop and sustain IT business clusters and essential infrastructure for this high-priority sector in Armenia.

Currently there are some techno-parks in Armenia, and a powerful business incubator was established by the assistance of the World Bank. The European Union is committed to supporting the development of IT in the Caucasus (a region between the Black and Caspian seas that includes southwest Russia, Georgia, Azerbaijan, and Armenia), and toward that end intends to set up and support a regional training center in Yerevan, Armenia.

## **Armenian Software Industry Growth**

Software and service companies, although representing only about eight percent of the current market in Armenia, have seen spectacular growth. They doubled in value to \$20 million between 1998 and 2000, largely because of the increased demand within

Armenia for networking products, packaged application solutions and software support.

The surge in software production is one of the most promising trends in the recent industrial development of Armenia. Both local and foreign-owned software production have at least doubled each year from 1997 to 2000. By the end of 2000, estimated total annual sales in the sector amounted to between \$18 and \$20 million. The sector accounted



for about five percent of Armenia's total exports in 2000. The growth rate of exports from Armenia's software is about twice that of other local industries over the same period. The success of the software industry has driven the expansion of other IT sectors including internet services, electronic data processing hardware, and educational courses.

A quarter of the 400 companies currently operating in Armenia's IT market are engaged in software development. They are also the largest employers within the IT workforce, with around 3,000 staff. There remains a large pool of talent to draw on, however, since about 4,000 graduates with IT qualifications and who are under the age of 40 do not have jobs in this field.

Of the 42 foreign software companies established in Armenia, 26 are US-based businesses with others coming from the United Kingdom, Ireland, Belgium, France, and Russia. Although accounting for slightly fewer than half of software enterprises in the republic, their operations tend to be bigger and they employ some 60 percent of programmers. Since there is a broad range of specialties available in Armenia, companies develop a wide variety of software products. These range from accounting and banking software to multimedia educational applications, database management systems, web-design and business-to-business programs. Foreign software companies in Armenia export most of their products, which include secure e-business solutions, e-commerce software, and wireless applications for clients ranging from corporations to governments.

### **Armenia's Comparative Advantages**

Software packages developed by local companies are introduced and applied in many fields of the economy. For instance, banking and financial software packages are widely used by financial companies in Armenia.

Multimedia educational programs are another promising area of development for Armenian companies. Such software could provide the

basis for the development of distance learning courses in the republic, provided that access to high-quality telecommunications services improves. The program, which provides training in the use of the Internet, is funded by the International Research and Exchange Board, a nonprofit organization based in the US.

Several companies complained that ArmenTel's monopoly of telephone services was slowing the development of internet technologies in Armenia because the cost of accessing the World Wide Web is high. Tariffs have dropped by 40 percent, but

Internet access remains several times more expensive in Armenia than in many other countries. As a result, use of the internet has spread slowly, with perhaps only 40,000-50,000 users nationwide.

However, some businesses are working on web design and development with foreign companies, including those from Canada, Ireland, Russia, and the US. Their emergence is evidence of the comparative advantages that Armenia enjoys. As well as high levels of technical expertise, labor costs are highly competitive and the republic benefits from the established networks and contacts of professionals in the Armenian "diaspora." Unlike many other businesses, Internet companies are not affected by transportation difficulties and the costs involved in moving products to market.

Salaries of software developers working for local companies range from \$200 to \$400 per month, depending on their expertise and experience. The rate is typically much higher among foreign companies and often starts at \$600 or more per month.

A study carried out by the Arcas Group, a private research company in Yerevan, recently concluded that Armenia represented the best value location in the world for IT products, taking into account the "high technical level and the low cost of development". The quality-price ratio was considerably better even than in India, where a thriving computer services industry has grown in recent years. Most Armenian experts are convinced, however, that foreign investors are attracted more by the high

quality of products that meet international requirements rather than by the low cost of labor.

## **Technoparks and Venture Capital**

Tony Moroyan, president of ViaSphere International in California's Silicon Valley, established the ViaSphere Technopark, the first technology park in Armenia, based at the transistor plant in Yerevan. The 10,000 square meter facility is already home to four successful IT companies and offers state-of-the-art infrastructure, including reliable power, data communications, and telecommunications connections. Business incubators are also available to facilitate rapid development, which is essential in the fast-moving technology sector. ViaSphere International, which has subsidiaries and partners in Japan, Italy, USA, India and a number of European countries, intends to provide venture capital to promote the creation of new businesses.

Moroyan, a major investor in IT worldwide, believes Armenian authorities should do more to strengthen legislation concerning copyright protection. But he noted a key element of Armenia's attractiveness for investors: "When we place orders in India, we receive accurately and on time the things we have ordered. When we place orders in Armenia, we receive accurately and on time the things we have ordered plus ten more suggestions for the development of new products."

Prospects for future growth look good, provided Armenia can ensure that its telecommunications infrastructure keeps pace with the demands of the industry, and that its education system continues to produce intelligent, well-motivated people. There may be concerns about both questions, but both are within Armenia's capability to address.

## AZERBAIJAN

Data taken from:

<http://www.cia.gov/cia/publications/factbook/>  
[http://www.irex.org/programs/ci/spotlight/aug-dec01/  
sadirkhanov2.pdf](http://www.irex.org/programs/ci/spotlight/aug-dec01/sadirkhanov2.pdf)  
[www.efcaucasus.org/news/December%201999/Grant/  
building\\_small\\_and\\_medium\\_enterprise.htm](http://www.efcaucasus.org/news/December%201999/Grant/building_small_and_medium_enterprise.htm) - 5k  
<http://www.undpsme.in-baku.com/page5e2.html>  
<http://www.usaid.gov/pubs/cbj2002/ee/az/>  
[http://economy.gov.az/HTML/Statements/  
statement\\_DEMSP\\_2001.htm](http://economy.gov.az/HTML/Statements/statement_DEMSP_2001.htm)  
<http://www.unece.org/trade/entdev/bi-main.htm>

### General Information:

Located between Iran and Russia in Southwestern Asia, bordering the Caspian Sea, the Turkic Muslim nation of Azerbaijan has been an independent republic since the collapse of the Soviet Union in 1991. Despite a cease-fire in place since 1994, Azerbaijan has yet to resolve its conflict with Armenia over the Azerbaijani Nagorno-Karabakh enclave (largely Armenian-populated). Azerbaijan has lost almost 20% of its territory and must support some 750,000 refugees and internally displaced persons (IDPs) as a result of the conflict. Corruption is ubiquitous and the promise of widespread wealth from Azerbaijan's undeveloped petroleum resources remains largely unfulfilled.

**Population:** 7,771,092 (July 2001 est.)

**Ethnic groups:** Azeri 90%, Dagestani 3.2%, Russian 2.5%, Armenian 2%, other 2.3% (1998 est.) It is significant to note that almost all Armenians live in the separatist Nagorno-Karabakh region.

**Languages:** Azerbaijani (Azeri) 89%, Russian 3%, Armenian 2%, other 6% (1995 est.).

The main goal for Azerbaijan is its integration with European structures, and creating a favorable business environment is vital to achieving this goal. Thus, the principal strategies of Azerbaijan today are to shift investors' attention towards the non-oil sector of the economy, and to develop franchising and cooperation of SMEs (Small and Medium Enterprises with transnational corporations. The first step was taken recently, when the Academy of Sciences of Azerbaijan agreed to host an incubator.

Azerbaijan permits only university incubators started by the national Academy of Sciences to operate. The principal strength of future business incubators is the possibility of developing young, ambitious non-oil companies and creating a favorable infrastructure for them. The major weakness is the lack of infrastructure for the transfer of various technologies.

Azerbaijan continues to adjust to the new challenges and responsibilities of an independent state long after the breakup of the Soviet Union. The government of Azerbaijan has been slow to embrace the principles of democracy and market economies, while its society has been slow to demand them. Azerbaijan's transition to an open market economy has been hampered by inadequate economic policy reform and economic restructuring, insufficient privatization and private sector development, rampant corruption, and the absence of an enabling legal and regulatory environment.

Azerbaijan's efforts in establishing a democratic form of government have also been problematic. The current regime is authoritarian, discourages dissent, and limits freedom of expression and the media. Controversy relating to deficiencies in the electoral process surrounded the parliamentary elections held in November 2000 and January 2001. On the positive side, the strong support of Western countries and international institutions has helped to establish a growing, albeit erratic, NGO community, and has laid the foundation for public advocacy and political reform.

Despite these obstacles, however, the process of transition to a market economy in Azerbaijan has become irreversible. Currently, the private sector is a determining economic force producing, about 70% of the national product, 99% of agriculture production, and 70% of the construction industry. Furthermore, the transportation industry is largely privatized, and 2.5 million people, or 67 percent of the available population, work in the private sector. Even though the private sector has become the determining economic force, Azerbaijan's business community generally lacks a modern business knowledge. Azerbaijan urgently needs contemporary knowledge for businessmen/women as well as business courses for students in universities. These problems could be overcome by the implementation of special programs, such as business incubation.

With the growth of a new market economy in Azerbaijan comes a host of new challenges for the country's small and medium enterprises, including the need to address the increasing role of women in the marketplace as well as the rising number of business conflicts typical of healthy free-market relations. Financial support from groups such as the Eurasia Foundation is helping local organizations overcome the difficulties related to private enterprise development.

Azerbaijani women are also being helped in private enterprise. Women comprised 43% of the republic's labor force in 1996, but occupied only 1.5% of all managerial and administrative positions. Particularly hard-hit by recent unemployment trends, most Azerbaijani women lack the resources and know-how to navigate a market economy. KOSIA SMEDA (Small and Medium Enterprise Development Agency), a non-governmental organization based in Baku, has dedicated itself to redefining the role of women in Azerbaijan's business world.

With support from the Eurasia Foundation, KOSIA SMEDA has developed a series of training seminars designed to teach women the basics of financial management, business planning, and successful marketing. Because women often lack opportunities for traditional education, they need specialized training courses that focus on information practical to their lives. The approach is working. Upon completing KOSIA

SMEDA's business courses, a number of women have gone on to become local entrepreneurs, founding businesses ranging from computer maintenance services to clothing stores to home renovation companies.

While KOSIA SMEDA directs its efforts at helping women become local entrepreneurs, another local NGO, AREAT, is focusing on those already established in the business world by teaching business practitioners the negotiation and communication skills needed in a market economy. With the help of a Eurasia grant, AREAT has trained 90 local businessmen and women in conflict prevention and resolution, specifically in the areas of contract policies, partnerships, strategic planning, customs, and communications.

The first program of its kind in Azerbaijan, AREAT's training seminars are helping local businessmen and women maneuver in an increasingly complex work environment: trainees are now negotiating for higher salaries, initiating changes in the workplace, and improving relations both between workers and with clients. By ensuring more productive business relationships in Azerbaijan, AREAT is enhancing business performance at the local level and promoting increased interaction with potential foreign investors.

## Reforms Implemented

Structural reforms implemented in the economic and state administration apparatus in the last couple of years have given a powerful incentive to the development of all economic sectors in the country, including development of the entrepreneurship sector. A number of necessary mechanisms of entrepreneurship infrastructure organization have already been created. The structures providing financial, information and advisory services to entrepreneurs have been established and their activities have been intensified.

The system of state financial aid to entrepreneurs has been formed and is being developed. The mechanisms of financing investment projects of entrepreneurs on favorable terms have been created. The

National Fund for Entrepreneurship Development has given investment aid to 36 enterprises under the prior directions of small entrepreneurship development.

Currently, the Department of Development of Entrepreneurship & Management of State Property of the Ministry is accepting and examining investment projects. The projects chosen will be given financial aid. Successive purposeful activities are also being implemented to establish cooperative relations with international and foreign financial and credit organizations in order to bring foreign and domestic credit resources on favorable terms.

Important measures for the organization of education, advisory and information services to entrepreneurs are also being implemented. About 3,000 entrepreneurs have received special training in courses and seminars organized through an entrepreneurs' assistance system. Special attention was given to entrepreneurial training in accordance with progressive world experience. Experts from international organizations are attracted to courses and purposeful activities on these measures covering all regions. The education of entrepreneurs in foreign countries through international organization programs has been ensured, and about 200 businessmen were trained in European countries during the last four years.

The state is taking an active part in providing entrepreneurs with advisory services. More than 3,500 small and average enterprises were provided with advisory services during last four years. Between 1994 and 2001, the Agency for Small and Average Entrepreneurship Development prepared about 2,000 business proposals, and provided more than 1,500 entrepreneurs with services including communication, identification of potential supporters, presentation development, and design and printing of advertising materials.

During 2000-2001, the Guba Women and Family Entrepreneurship Center and Baku Entrepreneur's Assistance Center established the "Small and Average Entrepreneurship Development Project" carried out by the UNO Development Program and the Ministry of Economic Devel-



opment. The program provided about 600 entrepreneurs with business advisory services free of charge, conducted 348 seminars with 700 entrepreneurs, and helped 50 entrepreneurs to prepare investment projects.

Certain steps to reduce taxes for entrepreneurs at the state level have also been taken. Income value-added taxes and compulsory insurance fees have been reduced, and a single tax for small entrepreneurship subjects is being applied.

Broad cooperation with international and foreign organizations in entrepreneurship development are also being established with such organizations and structures as the UNO Development Program, the World Bank, TACIS, OESD, GTZ, UNIDO, CIS, the Balkan and Black Sea countries. At present, talks with the UNO Industry Development Organization (UNIDO) on technical cooperation in entrepreneurship development are being conducted.

During the last two years the private sector has gained a leading position in the state economy as a result of (1) the second State Program ratification on the privatization of state property of the President of Azerbaijan Republic and (2) the Decrees on the privatization of a number of state enterprises. In general, the weight of the non-state sector in gross domestic product is successively increasing.

## BAHRAIN

Data taken from:

<http://www.cia.gov/cia/publications/factbook/geos/ba.html>

<http://www.commerce.gov.bh/>

News\_DisplayNews.asp?NewsID=613

### General Information:

Bahrain is located in the Persian Gulf archipelago, east of Saudi Arabia. Its small size and central location among Persian Gulf countries require it to play a delicate balancing act in foreign affairs. Possessing minimal oil reserves, Bahrain has turned to petroleum processing and refining and has transformed itself into an international banking center. The new emir is pushing economic and political reforms, and has worked to improve relations with the Shi'a community. In 2001, the International Court of Justice awarded the Hawar Islands, long disputed with Qatar, to Bahrain.

**Population:** 645,361. It includes 228,424 non-nationals (July 2001 est.)

**Ethnic groups:** Bahraini 63%, Asian 19%, other Arab 10%, Iranian 8%

**Languages:** Arabic, English, Farsi, Urdu.

### Business Incubators in Bahrain

The United Nations Industrial Development Organization (UNIDO), with its Arab regional Center for Entrepreneurship and Investment Training (ARCEIT) in association with the Commerce and Industry Ministry and the Bahrain development Bank, organized a program to train potential entrepreneurs. The program equips people with the necessary skills to establish small business enterprises and is aimed at helping potential Bahraini entrepreneurs translate their ideas into commercial ventures in the manufacturing and service sectors. The program offers a mix of classrooms inputs, counseling and support services in business identification and selection. It also assists in organizing market information, business plan preparation, raising financial resources, and in obtaining approvals/

clearances from the government and technology from other countries. Many of the trained entrepreneurs are expected to start their business ventures at the industrial incubators being set up by the ministry in Hidd, with the financial support of the Bahrain Development Bank (BDB).

Several entrepreneurs have received certificates for projects, which include:

- Ahmed Al Mannai (English and computer training center),
- Amina Abbas Ghuloom (Arabic perfume factory),
- Ashjan Yaqoob Al Shaer (Bahraini sweets factory),
- Badoor Abdulla (laundry),
- Ebrahim Al Heji (rubber recycling),
- Hadeel Aluwaywy (beauty salon),
- Hani Shaban (silver extraction),
- Ibtisam Hijris (fashion design),
- Mona Al Mannai (heritage center),
- Maitham Shaban (marketing and tourism agency),
- Majeed Sharaf (card vending machines),
- Ali Wahab Ali (medical and surgical disposals products),
- Nader Hamad (wooden crafts and packaging),
- Rasheed Al Fawaz (security services), and
- Hassan Awal (utility items for construction and mechanical applications).

### **Bahrain Development Bank**

A key element of the government's development strategy can be found in the creation of the Bahrain Development Bank (BDB). Since its beginning in 1992, the BDB has worked closely with entrepreneurs to help start new projects and businesses. Its task is to create viable manufacturing and service employment for Bahrainis and to facilitate increased exports from Bahrain by mobilizing capital and formulating new schemes for commercial projects.

Shareholders of the BDB include government, local commercial banks and private sector manufacturers. Under the terms of the bank's formation, in addition to an initial paid-in equity capital of BD10 million, some BD4 million of twenty-year loan funding is being provided by the

government every year for 10 years to increase the bank's loan and equity capital base to BD50 million.

Though the government has provided 60% of the paid-in equity, it has taken only four of the eight seats on the board. The rationale behind this is to encourage the fullest participation from the commercial banking and private sectors. To this end, the general managers of the two largest Bahraini commercial banks are both directors.

According to Bahraini law, because the bank has no small retail depositors, it is free to lend money without the collateral of cash, real estate or publicly quoted shares. Interest rates are extremely attractive at only 4% per year for small businesses and 5% for larger ones. Commercial rates in Bahrain for the same size business are considerably higher and rise with the market rates, whereas the bank's rates are held down.

By the autumn of 1993, the Bahrain Development Bank had processed more than 200 applications and serious inquiries for funding. Some 50 loans were approved for a total cost in excess of BD33 million, involving an exposure of BD6 million. Other equally important roles are mobilization of project ideas, attracting foreign investment and facilitating new projects. The bank has also recently moved into bigger and more important industrial schemes with a project cost of up to US\$50 million.

Since the goal of establishing the BDB is to encourage new and existing industries in assessing new projects, no discrimination is made among local, joint venture or 100% foreign-owned enterprises. All are welcome. The Bahrain Development Bank works closely with the Bahrain Marketing and Promotions Office (BMPO) located on the fourth floor of the BDB tower.

As the country's national marketing and promotions organization, BMPO is responsible for coordinating public and private sector initiatives, attracting direct foreign investment and supporting Bahraini exporters in identifying and developing new export market opportunities.

As a mobilizer of funds, the BDB is able to arrange substantial financing packages for large projects. It can also provide loan, equity and consulting advice on its own behalf. It offers an independent view based on the highest professional standards.

### **Arab Regional Center for Entrepreneurship and Investment Training**

UNIDO ITPO Bahrain was established to facilitate mobilization of foreign resources (technical, managerial and financial) to enhance cooperative industrial partnerships between companies in Bahrain and other nations. It also works to identify potentially viable business and investment opportunities sponsored by competent local investors in other developed and developing countries. In the process, ITPO Bahrain links itself to the worldwide network of UNIDO Investment Promotion Service Offices and National Investment Promotion Agencies. Bahrain is subsequently identified as the Regional Focal Point Country for the Arab Region, a designation that involves strengthening indigenous capacities for investment promotion and entrepreneurial development in Arab, Asian and African countries.

These developments led to the establishment of a full fledged training center in Bahrain known as the Arab Regional Center for Entrepreneurship and Investment Training (ARCEIT). The ARCEIT is intended to organize and support the investment and technology promotion and entrepreneurship development initiatives in the Arab region, operating vision and mission objectives:

- To become a Center of Excellence of entrepreneurship development in the Arab region.
- To originate a variety of investment and technology promotion and entrepreneurship development activities.
- To become a repository of knowledge and information on industrial investment opportunities, technologies and markets.
- To provide a forum for exchange of experiences and insights into entrepreneurship development.

- To become a resource institution to support, nurture and institutionalize the ITP and ED activities in the region.
- To enhance the competitiveness of existing enterprises.
- To promote partnerships amongst entrepreneurs within Arab region as also between entrepreneurs of the Arab Region and their counterparts elsewhere in the world.
- To develop a pool of resource persons.
- To help replicate development initiatives throughout the Arab region
- To generate, document and disseminate knowledge and information.
- To facilitate a business environment conducive to establishment and growth of small and medium enterprises.

### *The Approach*

Entrepreneurship development in Bahrain has been adapted to the operational environment and the special needs of the Bahraini entrepreneurs. The process has required availability of experts to act as trainers and counselors, helping and guiding potential entrepreneurs and networking with other institutions involved in facilitating small enterprise development. Facilitating the institutionalization of entrepreneurship development becomes even more essential when the process is taken up with the objective of long-term sustainability.

Given this background, the UNIDO–ITPO Bahrain organized a Trainers’ Training Program for New Enterprise Creation during 1999 in Bahrain. Twenty-seven professionals representing various educational and developmental institutions were trained to take up ED initiatives and support the small enterprise development in Bahrain through training intervention.

The Ministry of Commerce and Industry, which has a mandate to promote and facilitate industrial development, and the Bahrain Development Bank, which has a mandate to fulfill financial needs of SMEs in Bahrain, joined the program to facilitate enterprise creation. Through this

network association a unique model of services has been worked out and is being offered to entrepreneurs in Bahrain. It offers the following package in sequential order:

1. Capacity building services;
2. Advisory and counseling services, including technology tie-up and financial services;
3. Business development and advisory services for business growth, including establishment of business incubators.

The above support package, pioneered and institutionalized in Bahrain, has now been implemented in other countries in the region through local institutions. Bahrain serves as a focal point for entrepreneurship development training spread across the region.

#### *The first step – Capacity Building Services*

Entrepreneurship development is based on well-grounded historical experiences that show entrepreneurs are not only born but can also be trained and developed. It is of course recognized that all individuals do not possess entrepreneurial traits – the desire to do something new and unconventional in a specific context, to ensure independence by starting one's own business and thus to climb the social ladder. However, some do have such traits, irrespective of the socio-economic class to which they belong. Such persons can be discovered through some psychological-behavioral tests and can be trained to become full-fledged entrepreneurs through a training program (such as Entrepreneurship Development) that strengthens their confidence to start a new business, imparts necessary skills and knowledge about financial technical and managerial aspects of business and provides information for identifying a project idea.

To date, the basic characteristics of EDP are the following:

- The training process is result-oriented in the sense that the potential entrepreneur is expected to set up his own business enterprise appropriate to his abilities and background, as a result of the training.

- There is a firm commitment to its basic objectives by the organizing institutions.
- The trainees are identified and selected through a scientifically evolved selection process involving personality and commitment assessment through written tests and personal interviews.

Hence, a homogeneous group is there to undergo the learning process in a conducive environment. The program is designed to help potential entrepreneurs translate their ideas into commercial ventures in the manufacturing and service sectors.

### *The Program Content*

With the ultimate objective of assisting potential entrepreneurs to set up their own enterprises, the program has been designed to cover the following during a period of 4-5 weeks:

- Setting up a small enterprise in Bahrain: Rules, procedures and formalities, whom to contact for what, nature and extent of assistance available from various institutions
- Business Opportunity Identification: How to identify and screen business opportunities to firm up business ideas for further exploration.
- Market Assessment: Guidance in assessing market potential of the proposed product/ service
- Entrepreneurial Competencies: Behavioral science-based inputs to strengthen soft skills and entrepreneurial competencies
- Business Plan: Business plan development assistance.



- Essentials of managing a small enterprise.
- Inputs on how to implement a project.

### *Step Two- Advisory / Counseling Services*

Subsequent to the classroom training, there is vigorous follow-up to provide business counseling and assistance in implementing projects. Trained entrepreneurs are helped in finalizing their business ideas and in obtaining necessary information to prepare business plans. They are further guided in the development of their business plans. Assistance includes technology selection, identification of appropriate and desirable international partnerships, acquiring necessary licenses and legal documentation.

It should be noted that the nature and extent of business counseling services depend on the needs of respective entrepreneurs. The counseling schedule lasts from 4 to 12 weeks (or even longer as the case may be) and is tailored to the unique needs of the entrepreneur in consultation with the advisor. It may generally include the following activities:

- Business opportunity identification, analysis and decision-making;
- Market research
- Obtaining information on appropriate technology, machinery/equipment, and raw materials etc.
- Facilitating technology tie-ups and international joint venture collaborations (wherever applicable)
- Business plan preparation
- Completing legal documentation, including necessary registrations, licenses, and/or clearances
- Finalizing project implementation plan.

### *Step Three - Financial Services*

The next step is to link the project to the appropriate financial strategy. Appropriate financial linkages are identified based on project requirements and entrepreneurs' investment capacity. Entrepreneurs are advised and guided in completing the required formalities for seeking loan support from a financial institution. At this stage need-based advice and support are also provided by the financial counselors. The business counselor acts as a link between the entrepreneur, the financial counselor and the financial institution in order to facilitate the process and ensure appropriate financial support.

#### *Step Four – Business Development and Advising Services for Enterprise Growth, Including Establishment of Business Incubators*

With all essential resources for the project in place, the entrepreneur is guided through the project implementation plan that was formulated during the counseling phase (Step 2). Essential linkages are facilitated with institutions dealing in infrastructure services. Need-based guidance and support is provided for procuring, installing and commissioning project machinery and equipment, as well as for procuring the raw materials and other utilities. The business advisor and financial counselor closely monitor the project implementation process until the project is operational.

Suitable projects requiring basic infrastructure services offered by the business incubator are selected and assisted to operate from the incubator. It provides them with subsidized availability of essential infrastructure and administrative services together with business advisory to overcome initial development problems.

Tailor-made business advice and training are brought in to ensure project survival at crucial stages of initial operation and to facilitate subsequent growth.

**ARCEIT** has conducted the following programs to further support investment and technology commercialization:

- Trainers Training Program on Entrepreneurship Development
- Regional Training Seminar on Industrial Project Preparation and Appraisal
- Training Program for Developing Business Counselors
- Training and Counseling Programme on Enterprise Growth
- Regional Training Seminar on Industrial Project Identification, Formulation and Screening
- Training on Marketing Management

## TRAINING ACHIEVEMENTS

The training achievements are summarized by the following statistics:

- 54 Entrepreneurship Development trainers trained (Bahrain-Jordan-Sudan)
- 100 potential entrepreneurs trained and counseled for new enterprise creation –
- 14 business counselors developed for growth of SMEs
- 11 SMEs trained and counseled for enterprise growth
- 34 service institution professionals trained on industrial project identification and screening
- 40 service institution professionals trained on industrial project preparation and
- appraisal using UNIDO software COMFAR

## CYPRUS

Data taken from:

<http://www.cia.gov/cia/publications/factbook/agrino.org/hightech/proplan/Promitheas3.htm>

<http://europa.eu.int/comm/enterprise/networks/eic/pdf/profile-cyprus.pdf>

### General Information:

Located south of Turkey in the Middle East, The Mediterranean island of Cyprus lies at the hub of three continents, situated close to the busy trade routes linking Western Europe with the Arab World and Far East.

**Population:** 762,887 (July 2001 est.). Greek 78% (99.5% of the Greeks live in the Greek Cypriot area; 0.5% of the Greeks live in the Turkish Cypriot area), Turkish 18% (1.3% of the Turks live in the Greek Cypriot area; 98.7% of the Turks live in the Turkish Cypriot area), other 4% (99.2% of the other ethnic groups live in the Greek Cypriot area; 0.8% of the other ethnic groups live in the Turkish Cypriot area).

**Ethnic groups:** Greek 78% (99.5% of the Greeks live in the Greek Cypriot area; 0.5% of the Greeks live in the Turkish Cypriot area), Turkish 18% (1.3% of the Turks live in the Greek Cypriot area; 98.7% of the Turks live in the Turkish Cypriot area), other 4% (99.2% of the other ethnic groups live in the Greek Cypriot area; 0.8% of the other ethnic groups live in the Turkish Cypriot area)

**Languages:** Greek, Turkish, English

In June, 1999, the Government of the Republic of Cyprus adopted a New Industrial Policy, which consists of twelve chapters. The first two chapters refer to the promotion of high technology industries in Cyprus through the establishment of an incubator (Chapter 1) and the creation of a center for carrying out applied research and development in high technology fields (Chapter 2). The conceptualization of an incubator for high technology companies is based on the realization that researchers or

inventors may be very good in their field, but do not necessarily possess the necessary entrepreneurial skills and experience to make good businessmen. In addition, the initial stages of creating an enterprise in the high-tech field involve many risks, that act as a deterrent for external investors. As a result, many excellent ideas are left unexploited. Incubators aim at helping new inventors or researchers in the early stages to develop and market their innovative ideas and create new productive enterprises based on them.

Through the Incubator Program the Government of Cyprus provides partial financing for projects aimed at the development of new high technology products that will be approved to enter the incubator for up to a period of two years. Applications for such projects may involve the participation of non-Cypriot inventors or scientists. A detailed study of all aspects relating to the creation, organization and operation of the new institutions has been assigned by the Council of Ministers to a Technical Committee composed of representatives from the Ministry of Commerce, Industry and Tourism (chair), the Planning Bureau, the University of Cyprus, the Cyprus Chamber of Commerce and Industry, the Cyprus Employers and Industrialists Federation, the Institute of Technology and the Foundation for the Promotion of Research. The Technical Committee prepared a report based on visits to similar establishments in Israel, Ireland, and Greece.

Athena High Technology Incubator Ltd.

6 Theotoki Street

Nicosia

CYPRUS

Contact Person

IOANNOU, Eleftheria (Ms)

tel: +357-2-554360

fax: +357-2-2343680

e-mail: ioannoue@athenatech.com.cy

URL: <http://www.athenatech.com.cy>

*General Information:*

Athena High Technology Incubator Ltd. is an international for-profit business incubator, based in Cyprus, which provides support services for transforming teams of entrepreneurs into world class start-ups. Athena Incubator focuses on seed or early stage financing relating to information and communication technologies (ICT) although all high-tech sectors are also possible with the exceptions of biotech and genomics. Membership: National Business Incubation Association (NBIA) <http://www.nbia.org/>, IASP Associate.

## EGYPT

Data taken from:

<http://www.iief.de/medisat/D1/egypt.htm>

<http://www.cia.gov/cia/publications/factbook/>

### General Information:

Egypt is located between Libya and the Red Sea and borders the Mediterranean Sea. It has a total area of 1,001,450 sq. km, out of which 995,450 sq. km is land and 6,000 sq. km is water. It has a coastline of 2,450 km.

**Population:** 69,536,644 (July 2001 est.)

**Ethnic groups:** Eastern Hamitic stock (Egyptians, Bedouins, and Berbers) 99%, Greek, Nubian, Armenian, other European (primarily Italian and French) 1%

**Languages:** The main language spoken is Arabic, which is official, while English and French are widely understood by educated classes.

**Economy:** By the end of the 1980s, Egypt - hit by the collapse of the world oil market and servicing a foreign debt totaling about \$50 billion - faced crises in virtually all economic sectors. Problems of low productivity and poor economic management were compounded by the adverse social effects of large population growth rates, high inflation, and massive urban overcrowding. In the face of these pressures, in 1991 Egypt undertook wide-ranging macro-economic stabilization and structural reform measures. This reform effort has been supported by three successive IMF arrangements, the last of which was concluded in October 1996.

Egypt's reform efforts and its participation in the Gulf war coalition also led to massive debt relief under the Paris Club arrangements. Egypt's foreign debt fell to about \$31 billion at year-end 1996. Although the pace of reform has been uneven and slower than envisaged under the IMF programs, substantial progress has been made in improving macro-

economic performance (budget deficits have been slashed while foreign reserves in 1996 were at an all-time high) and in moving toward a more decentralized, market-oriented economy. Egypt was able to capitalize on its progress during the third Middle East/North Africa economic conference which it hosted in November 1996. Egypt's President told reporters that Egypt had concluded deals worth \$10 billion in investment during the conference, 20 times the country's estimated total direct foreign investment for the 1995/96 fiscal year. According to press reports, Egypt and foreign investors agreed on nine large projects, including the export of liquefied natural gas from Egypt to Turkey, estimated at \$2 billion to \$4 billion.

Egypt has a broad-based inventory of geographic, human, and physical assets which in a liberalized market environment could spur rapid, sustainable growth into the next century. But rapid population growth continues to cast a shadow over economic prospects.

Egypt's purchasing power parity is \$183.9 billion (1996 est.), with a GDP of real growth rate of 4.9%, \$2,900 purchasing power parity per capita. GDP composition by sector is as following: agriculture: 16%, industry : 34%, services: 50% . The inflation rate is 7.3% (according to the consumer price index of 1996).

## **Business Development Activities**

A number of business and economic development activities are ongoing in Egypt sponsored by a wide number of groups. For the past 25 years, the US and Egypt have collaborated in numerous economic development activities with funding assistance totaling more than \$24 billion. ([www.usaid-eg.org/](http://www.usaid-eg.org/)) Under the general umbrella "US-Egyptian Partnership for Economic Growth and Development, first publicized in 1994, the US and Egypt began working to expand economic growth and job creation and to build economic and commercial ties between the two countries. Three initiatives were developed, including the Joint Committee on Economic Growth, the Joint Science and Technology Board, and the President's Council of senior private sector executives.



### *Joint Committee for Economic Growth*

The joint committee was established to enable the governments of the US and Egypt to conduct an ongoing dialogue on economic policy. Four subcommittees – (1) Economic Policy, Trade, Investment and External Finance; (2) Technology; (3) Sustainable Development and the Environment; and (4) Education and Human Resource Development – were established to provide a forum for discussion and programmatic action agendas for economic development.

### *Joint Science and Technology Board*

This group oversaw the US-Egypt Science and Technology Agreement, a five-year program beginning in 1995. Three areas were identified as having the highest priorities: biotechnology, environmentally friendly manufacturing technology, and standards. Joint workshops were established to provide an opportunity for government, academic and private sector representatives from both countries to interact and to share information about intellectual property rights, investment climates, and opportunities for increased private sector cooperation.

### *Presidents' Council*

The goal of this group was to provide advice and counsel to both governments related to private sector needs and concerns and to facilitate private sector growth in Egypt. A meeting held in January, 1996, in Cairo, resulted in recommendations to the Egyptian government about steps that could be taken to establish a business-friendly environment for both Egyptian firms and foreign-owned firms.

### *US-Egypt Business Council*

The council seeks to expand the current partnership between the US and Egypt into a comprehensive relationship that includes strategic, economic, technological, and commercial elements. The Council seeks to accomplish this by increasing financial and commercial cooperation and by enhancing the roles of the private sectors of each country. As a voice

for the private sector, the Council provides both governments with private sector views about ways to stimulate commercial, economic and financial growth.

### *Information Technology Partnership Conference*

In May, 2002, the US Department of Commerce's Technology Administration participated in the Information Technology Partnership Conference co-sponsored by the Baltimore Sister Cities Program. The conference was held in two locations: Alexandria, Egypt (May 8-9) followed by two days of one-on-one business meetings in Cairo (May 10-11). Travel to the conference was partially supported by the Maryland Department of Business and Economic Development which offered matching funds for small to medium-sized IT companies (SMEs) wishing to explore business opportunities in Egypt. Other organizers of the conference included the Alexandria Business Association; the Governor's Office, Governorate of Alexandria, Egypt; and the Egyptian Ministry of Communications and Information Technology. Sponsors included IBM and Hewlett Packard. The objectives of the conference included providing opportunities for small US-based SMEs to create business alliances with Egyptian IT SMEs, developing partnerships for creating e-commerce web sites serving the Alexandrian business community, creating a business and implementation plan for a distance learning facility at a local university providing a certified IT business management program, and developing a collaborative plan for an IT technology park near to Alexandria.

## **USAID Programs in Egypt**

### ***Workforce Development***

Development programs underway include Workforce Development, deemed one of the most critical for Egyptian competitiveness. Egyptian managers and workers must acquire critical thinking and practical skills in order to benefit from on-the-job training opportunities. Survey data from 1998 and 1999 Global Competitiveness Reports confirm a continued low international ranking on workforce skills and training institutions.

Principally focusing on management training, USAID has developed a new program (SO-17). The intent of the program is to target the 50 percent of Egyptian workers who are in management or who have management potential and to strengthen Egyptian private sector management and training providers. Additionally, the program encourages the private sector to treat training as an investment, rather than as an expense, one of the changes in management attitudes needed to foster development of a cadre of trained personnel.

Other programs include the Skills for Competitiveness Developed, initiated in FY 2000 to be completed in FY 2004. The program provided for 1,500 Egyptian university graduates to complete certified IT training in various areas, including database development and administration, web development, e-commerce, and Microsoft Certified Engineer Training. Another 62 candidates from private sector companies in Egypt have started MBA and Master's in Information Technology programs in the US, nine of which have completed their programs and returned to Egypt.

Finally, other components of the program are designed to improve training and human resource development in information technology and tourism. These include a World Bank grant to establish a distance learning center associated with the Regional Information and Software Engineering Center, and tourism cluster development work are near completion.

USAID also sponsors a University Linkages program which will be completed in FY 2003. This program supports applied research collaborations between Egyptian and US universities to solve problems facing Egyptian business and industry. The program encourages three-way linkages between US universities, Egyptian universities and Egyptian businesses to strengthen technology transfer and innovation. During the 10-year time frame in which this program has operated, some 61 linkages grants have been awarded to 11 Egyptian and 44 US universities, with significant cost sharing. Some of the earlier grants have now progressed to commercializing the results. An example is a grant that produced advanced, low cost, composite materials from locally available materials

for use in construction and maintenance of existing buildings. Currently, the teams are addressing patent rights, royalties, and needed changes in the legal and regulatory laws to stimulate use of the newer composite materials.

## **Development Support Program II**

Amount: \$1.2 billion (\$200 million per year)

Initiated: FY 2001

Completion: FY 2007

The Development Support Program II (DSP II) is a policy reform program designed to continue assisting the Government of Egypt in achieving its planned reform measures for the next six years. The Ministry of International Cooperation and USAID agreed on nine policy areas/objectives, under which 23 benchmarks were identified, and the intent is to have a majority of the nine areas described below be phased over the six-year life of DSP II. The nine areas include trade policy; competition and the regulations that govern it; Efficiency of resource allocation; Fiscal policy and public debt management; Streamlined financial sector and its regulations; Liberalized foreign exchange rate and monetary policies; Business environment enhancement and investment opportunities; Initiating civil service reform; and, Promotion of information, data transparency, and dissemination.

## **Technical Assistance to Support Economic Reform (TASER)**

Amount: \$60 million

Initiated: FY 2000

Completion: FY 2006

TASER provides the Government of Egypt and selected research organizations with technical assistance to develop, carry out, monitor, and evaluate key elements of the Development Support Program. It is designed to provide technical assistance activities to support:

- The monitoring, verification, and assessment of the effects of the reform on the economy;
- The government's policy reform formulation and implementation efforts in several sectors;
- Coordination and management of the government's policy reform agenda; and
- Performance evaluation of the technical assistance contractor(s) and the program intended results.

These tasks will focus on trade, intellectual property rights, fiscal, financial, labor agriculture and environment. For example, the trade activity just started with a \$20 million contract to help Ministry of Foreign Trade establish a WTO unit, liberalize remaining trade constraints, re-engineer the foreign trade divisions, and to provide training and IT equipment. Reforming the Egyptian insurance sector and the intellectual property right activities are already underway.

## **Information and Communications Technology**

Amount: \$39.1 million

Initiated: FY 2000

Completion: FY 2007

The Information and Communications Technology project is designed to improve Egyptian business competitiveness through adoption and diffusion of information and communications technology. The activity also focuses on improving the legal and regulatory environment for ICT and expanding adoption and delivery of ICT in Egypt.

The Government of Egypt recognized the high priority of expanding and deepening ICT as a principal avenue to both greater national productivity and global competitiveness. Despite recent impressive and demonstrable progress, technical, institutional, legal and regulatory, human resource, and infrastructure obstacles hamper the ICT sector in Egypt. USAID has signed a bilateral agreement to provide technical assistance, training, grants, and commodity procurements for ICT-related

hardware, software, and services. Support provided under this five year project will be concentrated in the following priority areas:

**(1) Improved Legal and Regulatory Environment for ICT:** assistance to implement an improved legal and regulatory framework, including draft telecommunications, e-commerce, and other ICT related laws, regulations and procedures. It will also support Egypt's adoption of and compliance with specific ICT-related international agreements such as the Basic Telecommunications Agreement and the Information Technology Agreement. It will additionally provide assistance to the Government of Egypt ICT-regulatory authorities, such as the Telecommunications Regulatory Authority, and a proposed NGO, called "the Federation," in establishing an enabling legal and regulatory environment for growth in ICT.

**(2) Increased E-Government and E-Commerce:** implementing mutually agreed-upon activities that encourage electronic financial and payment services, and address security concerns. It will also support the implementation of mutually agreed upon e-government and e-commerce pilot activities aimed at improving efficiencies, cost effectiveness, and access to government-funded services, particularly those provided to the private sector.

**(3) Expanded Usage of ICT throughout Egypt:** expanding the usage of ICT both by the private sector and individual citizens. It will support activities and campaigns that promote awareness of the role ICT can play in increasing efficiencies and improving competitiveness of the Egyptian private sector. Through telecenters, incubators and other mechanisms, the project will also increase access of individuals and businesses in remote areas and support the creation of start-up ICT firms.

**(4) Grants to U.S and Egyptian NGOs:** grants to U.S. and Egyptian non-governmental organizations (NGOs) for increased development and adoption of ICT in Egypt, especially pilot projects that focus on enhanced ICT adoption and diffusion in non-urban or rural areas and small towns and villages.

## Small and Emerging Business Support

Amount: \$85 million

Initiated: FY 1997

Completion: FY 2005

The Small and Emerging Business (SEB) activity is designed to broaden USAID assistance in the delivery of credit to small and emerging businesses that lack sufficient collateral to obtain loans from domestic banks. Up to 60 small and emerging business service units will be established, reaching operational break-even level before the program's end.

USAID supports the Credit Guarantee Company (CGC) in establishing a small and micro enterprise development (SMED) unit that will allow CGC to channel USAID Small and Emerging Business (SEB) project's financial and technical resources to Egypt's small and micro enterprises through viable SME development organizations nationwide. USAID will also support the expansion of the current CGC small-scale enterprises program. The program assists Egyptian entrepreneurs lacking sufficient collateral to obtain loans from domestic banks by providing loan guarantees of up to 50 percent of a bank loan to small scale enterprises. USAID and the Government of Egypt allocated LE 60 million to increase CGC's small-scale enterprise guarantee fund.

A four-year Cooperative Agreement was awarded to the Alexandria Business Association (ABA) to expand its current SME development activities beyond Alexandria and Kafr El Sheikh Governorates. The agreement will assist ABA in establishing eight additional branches to implement services in Beheira, Marsa Matrouh, and Alexandria.

In addition, USAID is assisting the National Council for Women (NCW) to develop a network of women's business development centers to serve the needs of female entrepreneurs throughout Egypt and equip them with the capabilities to enhance their contribution to the national economy. The centers will promote the development of female-owned small and medium enterprises and key skills that will allow women to contribute most effectively to national economic competitiveness.

To date, CGC has signed participating agreements with five micro enterprise development associations operating in Upper Egypt (Sohag, Qena, Aswan, and Fayoum) and in the Delta area (Gharbia and Beheira). End-use lending started in July 2001. By the end of the project, this activity will establish up to 30 small business development service units operating under small business development foundations nationwide. Additionally, CGC and Banque du Caire have reached an agreement in principal to implement a nationwide micro finance program. End use lending started in August 2001 in all the bank's Upper Egypt branches. By 2005, the bank will be managing an LE 500 million SME loan portfolio through 120 branches.

ABA has located appropriate branch sites in Beheira and Marsa Matrouh. Staff training as planned and the first two branches started operation in May 2002. The NCW Women's Business Development Center staff was hired and is now receiving in-country and overseas training and office space is being renovated and furnished to begin operations. A business plan has been developed, spelling out the center's approach to sustainable training, counseling, and other activities to serve Egyptian women in business and in the workforce.

### **Other Business Development Groups**

Alexandria Business Association (ABA)

Eng. Nabil El Shami

Executive Director

52 Horreya Avenue

Alexandria, Egypt

Tel: (03) 482-5518/(03) 483-2282

Fax: (03) 482-9576

ABA Foundation also provides training for entrepreneurs, marketing support and research for businesses, and maintains an exhibition center for client products.



Egyptian Small Enterprise Development Foundation

Dr. Maged Abdel Fattah

Executive Director

13 Salem Salem Street

Agouza, Giza, Egypt

Tel: (02) 336-3980/(02) 336-3985/(02) 336-3981

Fax: (02) 336-3985/(02) 336-3983

Assiut Businessmen's Association

Mr. Nabil Naguib

Acting Executive Director

Al Shark LeI Tamin Tower

El Geish Street, 1st Floor

Assiut, Egypt

Tel: (088) 341-755/(088) 345-404/(088) 341-766

Fax: (088) 341-755

Small Enterprise Development Foundation of Port Said

Mr. Sayed El Essawy

Executive Director

Post Office Building

El Geish & Mohamed Mahmoud Street

4th Floor

Port Said, Egypt

Tel: (066) 336-452/(066) 336-450/(066) 336-453

Fax: (066) 336-454

Sharkeya Businessmen's Association for Community Development

Mr. Abdel Kader Metwally

Executive Director

23 Talaat Harb Street

Borg Salma

Zagazig

Sharkeya, Egypt

Tel: (055) 236-4600/(055) 232-0901/(055) 236-5600

Fax: (055) 236-5601/(055) 236-5602

Dakahleya Businessmen's Association for Investment & Community  
Development  
Mr. Hassan Farid  
Executive Director  
51 President Hosni Mubarak Street  
Borg El Khalifa, Al-Mansoura  
Dakahleya, Egypt  
Tel: (050) 226-0086/(050) 226-0097/(050) 226-0028  
Fax: (050) 226-0086, ext. 150

### **United Nations Industrial Development Organization (UNIDO)**

UNIDO has assisted the Social Fund for Development (SFD) and local sponsors in establishing business incubator facilities in Upper Egypt. The purpose of this assistance, funded by UNDP, has been to analyze the feasibility of two business incubation centers in Luxor that will promote economic development and diversification in the region and create enterprises which, in turn, will provide income opportunities for potential entrepreneurs and for long term employment.

### **Incubators in Egypt**

#### *Business Technology Incubation Center*

The Business Technology Incubation Center (B.T.I.C.) project is designed to assist the Government of Egypt in achieving its target of human resource development in technological fields. B.T.I.C. is intended mainly to serve young graduates to acquire practical experience needed to establish their own enterprises.

B.T.I.C. will concentrate on developing the technological skills needed for engineering-related industries, including software, electronics and communications. B.T.I.C. operations will attract graduates to actively participate in the development of Egypt industrial capabilities. B.T.I.C. shall serve as an example of other centers around the country and possibly other developing countries.

B.T.I.C. capacities and resources are intended to accelerate development of industrial operations needed for the overall economical development of Egypt. B.T.I.C. focuses on young graduates who will have full-time access to the center, using its workspace and central facilities. In addition, other technical professionals will have an access to the central facilities as needed. The center facilities are targeted to serve about 500 young graduates in addition to thousands of technical professionals.

### **Sinai Technology Valley**

Acknowledging the importance of technology as the gateway to the twenty first century, the Cabinet of the Government of Egypt has included the Sinai Technology Valley (STV) in the “The Sinai Development National Plan” as one of the major projects necessary for accelerating socioeconomic development in Egypt. This project targets many aspects of economic development, both locally and internationally.

The STV aims at attracting international investment in many critical industries such as information technology, communications technology, medical technology, industrial automation technology, biotechnology, environmental technology, and many other areas critical for development into the twenty first century. This project will result in the establishment of a highly needed wide industrial base in Egypt, which can only be established through the transfer of technology, target training, and specialized and continuing education. This transfer of technology will be guaranteed through the attraction of foreign investment into the STV. Major international industrial companies will be invited to benefit from the prime strategic location of the STV, East of the Suez canal, linking the European, African, Middle and Far East markets, which will enhance the benefits provided by the STV to suit and meet the requirements of even the most rigorous of investors.

## **Social Fund for Development**

1 Hussein Hegazy Street Kasr El Aini

Cairo

Tel: 20-2/354.00.77

Fax: 20-2/355.06.28

E-Mail: [sfdmis@powermail.intouch.com](mailto:sfdmis@powermail.intouch.com)

## **Smart Village and Ideavelopers**

The Smart Village Project is a program designed to expand Egypt's high-tech infrastructure by establishing three technology parks, or "smart villages" that will catalyze expansion of Egypt's promising communications and information technology sector. Developed with the help of partners such as Cisco Systems, Microsoft (which plans to open an office there), Qualcomm, Oracle, and others, the first Smart Village has been established at Giza and provides a high-tech working environment for IT and telecom companies. It is located on 300 acres close to downtown Cairo. The technical infrastructure for the Village includes a high-speed network for data, voice, and video transmission, VPN connection, cable TV and video conferencing systems, and a state-of-the-art power network.

Ideavelopers is headquartered in the Pyramids Smart Village in Giza. The firm combines entrepreneurial, operational and investment expertise to help entrepreneurs develop their ideas into successful businesses. Ideavelopers is a private sector initiative that seeks to integrate finance, venture development and incubation to provide technology entrepreneurs with needed investment capital as well as operational expertise. The firm provides serviced office space, and "plug and play" access to technology, finance, legal and marketing services. The company is also backed by shareholders such as the Commercial International Investment Company and Telecom Egypt. Contact information:

Walid Bakr, Chief Business Development Officer

Telephone: 02-760-6770/1

Fax: 02-792-3870

Email: [walid@ideavelopers.com](mailto:walid@ideavelopers.com)

## INDIA

Data taken from:

<http://www.unido.org/doc/331070.htmls>

<http://www.smallbusinessnotes.com/incubation/india.html>

<http://www.cia.gov/cia/publications/factbook/>

### General Information:

India is located between Burma and Pakistan in Southern Asia, bordering the Arabian Sea and the Bay of Bengal. The Indus Valley civilization, one of the oldest in the world, goes back at least 5,000 years. Aryan tribes from the northwest invaded about 1500 B.C.; their merger with the earlier inhabitants created classical Indian culture. Arab and Turkish incursions starting in the 8th century and 12th centuries were followed by European traders beginning in the late 15th century. By the 19th century, Britain had assumed political control of virtually all Indian lands. Nonviolent resistance to British colonialism under Mohandas Gandhi and Jawaharlal Nehru led to independence in 1947. The subcontinent was divided into the secular state of India and the smaller Muslim state of Pakistan. A third war between the two countries in 1971 resulted in East Pakistan becoming the separate nation of Bangladesh. Fundamental concerns in India include the ongoing dispute with Pakistan over Kashmir, massive overpopulation, environmental degradation, extensive poverty, and ethnic strife — all despite impressive gains in economic investment and output.

**Population:** 1,029,991,145 (July 2001 est.)

**Ethnic groups:** Indo-Aryan 72%, Dravidian 25%, Mongoloid and other 3% (2000)

**Languages:** English enjoys associate status but is the most important language for national, political, and commercial communication, Hindi the national language and primary tongue of 30% of the people. Other official languages include Bengali, Telugu, Marathi, Tamil, Urdu, Gujarati, Malayalam, Kannada, Oriya, Punjabi, Assamese, Kashmiri, Sindhi, San-

skrit, and Hindustani, a popular variant of Hindi/Urdu spoken widely throughout northern India.

### **Information on Business Incubators in India:**

The International Business Incubation Systems (IBIS) program in India envisages forging alliances between Indian entrepreneurs and foreign SMEs to promote start-ups by matching entrepreneurial and technical skills available in India with the technical and managerial know-how and investment funds of successful SMEs from developed countries. Such an “entrepreneurial marriage” will be planned within an efficient and supportive physical environment made available at selected sites (New Delhi, Tamil Nadu, Kerala) in India.

The partnership, cooperation, synergy and image that IBIS helps to promote, give the participating local entrepreneurs considerable advantages that enterprises of comparable sizes outside IBIS may not have. At each selected site one nodal and numerous support institutions accomplish match-making processes and extend a wide range of support thereafter. For each site the program focuses on specified industrial sectors, which tend to be relatively advanced in terms of technology and for which the site has certain comparative advantages.

Integrated services and shared facilities, extend from the organizational context of IBIS to individual entrepreneurs during the early stages of project planning and represent immeasurable benefits. Although all state governments are attempting to streamline the procedures and earmark specific groups to take care of the varied approvals and clearances for new projects, individual entrepreneurs still have to deal with several agencies, a process which tends to be time-consuming. IBIS provides a focal point through “nodal institutions” offering obvious advantages to the program participants.

Benefits for the Indian partner include,

- shortening the gestation period and, therefore, overall cost of the project;
- assistance in transfer of technical know-how and management practices;

- close and continuous hand-holding by professional supporting institutions, which facilitates the project implementation process;
  - upgrading and accelerating the process of innovation and commercialization;
  - participation in the equity capital by the foreign partner which helps share the financial burden with the local partner and ensures more intensive participation;
  - access to equity as well as loan capital by financial institutions;
  - help in recruiting better local professionals through international affiliation;
  - facilitation of market entry and growth;
  - access to a large, more diversified market leads to a larger turnover and higher profitability;
  - enablement of quicker expansion and diversification.
- Benefits for the foreign partner include,
- appropriate selection of a business partner;
  - appropriate site for initial business establishment;
  - lower risk of investment;
  - established, reliable business and technical network;
  - reservoir of professionals at a fraction of the costs that prevail back home;
  - use of a physical facility as (1) an off-site division for the development of products and services and (2) a platform for entering the Indian and South East Asian markets.

#### *List of Incubators in India:*

##### hatchingIT

Tel: 61 3 9663 4688

Fax: 61 3 9650 9484

Email: adam@hatchingit.com; <http://www.hatchingIT.com>

##### ICICI Infotech Incubation Center

AA Baride, Chief Imagineering Officer

Keshav Khade Marg

Mahalaxmi, Mumbai 400034

Tel: +91 22 4906259

Fax: +91 22 4923600

Email: baride@icici.com

Indiaco (P) Limited

214 LBS Rd

Pune 411030

Tel: 091-20-4003068

Fax: 091-20-4336545

Email: rahul@indiaco.com

NurtureIT

F-128 Mohammadpur

New Delhi - 110066

Tel: +91-98101-14544

Fax: +91-11-4691573

Email: achand@ittindia.com

**Software Technology Parks of India** (See the website

<http://www.stph.net/contact/ocenters.html> for a complete listing of all STPI centers)

**DELHI - Headquarters**

Mr.S.N.Zindal

Director General

Software Technology Parks of India Electronics Niketan,

6,C.G.O.Complex,

Lodi Road, New Delhi-110 003

Tel. No. 011 - 4362811 / 4363108 / 4363484

Fax. No. 011 - 4363436 / 4364336

Website: [www.stpi.soft.net](http://www.stpi.soft.net)



Software Technology Parks of India (STPI) Bhubaneswar  
Priyadarshini Market  
2nd Floor CRP Square  
Nayapalli  
Bhubaneswar 751 012  
Tel: (0674) 407260, 407269  
Fax: (0674) 407261

Software Technology Parks of India (STPI) Calcutta  
SDF Building, Saltic Electronics Complex, Block-GP  
Sector V Bidhannagar,  
Calcutta 700 091.  
Tel: (033) 3219663, 3219665  
Fax: (033) 3219664

Software Technology Parks of India (STPI) Chennai  
No.44/1, Kalaimagal Nagar  
2nd Street, Ekkaduthangal  
Chennai 600 097.  
Tel: (044) 2328562  
Fax: (044) 4896541

Software Technology Parks of India (STPI) Gandhinagar  
A/78/7/2, Flatted Factory Shed  
GIDC Electronics Estate  
Gandhinagar 382 044  
Tel: (02712) 31571, 35856  
Fax: (02712) 27207

Software Technology Parks of India (STPI) Hyderabad  
407, Maitrivanam Complex  
Sanjeev Reddy Nagar Post  
Hyderabad - 500 038  
Tel: (040) 3731477, 3730817  
Fax: (040) 3730652

Software Technology Parks of India (STPI) Jaipur  
201-202, Gaurav Tower I, Bardiya Shopping Centre  
Malviya Nagar  
Jaipur 302 017  
Tel/Fa: (0141) 720063, 720065

Software Technology Parks of India (STPI) Mohali  
B-99, L-Top, Phase 8  
SAF Nagar  
Mohali  
Punjab 160 059  
Tel: (0172) 262528  
Fax: (0172) 262157

Software Technology Parks of India (STPI) Noida  
Block IV, Ganga Shopping Complex, Sector No.29  
Noida 201 303  
Tel: (011) 542538, 542483  
Fax: (011) 536616

Software Technology Parks of India (STPI) Pune  
1st Floor, Kubera Complex Opp. Mitcon  
Dr. Rajendra Prasad Road  
Pune 411 005.  
Tel: (020) 544173, 548373  
Fax: (020) 544172

## IRAN

Data taken from:

<http://www.cia.gov/cia/publications/factbook/>

[http://www.kawasaki-net.ne.jp/aspa/isfahan%20\(the%205th\)e-abstruct.htm](http://www.kawasaki-net.ne.jp/aspa/isfahan%20(the%205th)e-abstruct.htm)

### General Information:

Located between Iraq and Pakistan and bordering the Gulf of Oman, the Persian Gulf, and the Caspian Sea, Iran was known as Persia until 1935. Iran became an Islamic republic in 1979 after the ruling shah was forced into exile. Conservative clerical forces subsequently crushed westernizing liberal elements. Militant Iranian students seized the US Embassy in Tehran on 4 November 1979 and held it until 20 January 1981. During 1980-88, Iran fought a bloody, indecisive war with Iraq over disputed territory. The key current issue is how rapidly the country should open up to the modernizing influences of the outside world.

**Population:** 66,128,965 (July 2001 est.).

**Ethnic groups:** Persian 51%, Azeri 24%, Gilaki and Mazandarani 8%, Kurd 7%, Arab 3%, Lur 2%, Baloch 2%, Turkmen 2%, other 1%

**Languages:** Persian and Persian dialects 58%, Turkic and Turkic dialects 26%, Kurdish 9%, Luri 2%, Balochi 1%, Arabic 1%, Turkish 1%, other 2%

### Business Incubation in Iran:

The Iranian government, through the Ministry of Science, Research and Technology, has entrusted ISTT the responsibility to establish science parks and incubators in the Isfahan region. As a first step, Qadir Research Incubator was established in September 2000, in a building with an area of 3400 m<sup>2</sup>. The main incubator, with an area of 10,000 m<sup>2</sup>, is currently in the process of construction next to the Isfahan University of Technology campus and is to be inaugurated by the end of 2002. So far, 22 start-up and spin-off companies, which have presented business ideas

and have entrepreneurs as their main work force, have been admitted to Qadir Incubator.

This incubator provides technological, financial, and managerial consulting to help solve difficulties that new small companies might face. Each company receives general services, including office space, access to telephone, fax and Internet as well as secretarial services. In addition, several laboratories have been developed at Qadir Incubator, including an electronics lab, a metallurgy lab, a design lab and a wet lab. The laboratories offer services to research and development activities. Companies are also offered managerial consultation through workshops and short courses. Professional and scientific support is provided to new companies through ISTT's efforts in enhancing relationships with universities and industries in the region. Qadir Incubator provides venture incubator support including start-up money to help companies pay for services they obtain as well as seed money to develop their business ideas.

Developing incubator programs at ISTT has not been an easy task. There are many legal, institutional and cultural barriers to overcome. New laws and regulations need to be provided and a paradigm shift needs to be promoted among government officials. In addition, few entrepreneurs and university graduates are eager to start their own companies; rather they are more interested in finding jobs in the public service where they feel fewer risks, as is usual in most developing countries. ISTT, therefore, faces the challenge of developing the infrastructure for science parks and incubators and, at the same time, resolving difficulties at legal, institutional and cultural levels. ISTT's incubating program is expected to play a major role in the development of many new companies in the Isfahan region.

## ISRAEL

Data taken from:

<http://www.cia.gov/cia/publications/factbook/geos/is.html>

<http://news.std.com/neicc/V/V2.html>

[www.incubators.org.il/program.htm](http://www.incubators.org.il/program.htm)

<http://www.asakim.org.il/Eng/EngSmall.htm>

### General Information

**Location:** Israel is located in the Middle East, bordering the Mediterranean Sea, between Egypt and Lebanon. Following World War II, the British withdrew from their mandate of West Bank/Gaza, and the UN partitioned the area into Arab and Jewish states, an arrangement rejected by the Arabs. Subsequently, the Israelis defeated the Arabs in a series of wars without ending the deep tensions between the two sides. The territories occupied by Israel since the 1967 war are not included in the Israel country profile, unless otherwise noted. In keeping with the framework established at the Madrid Conference in October 1991, bilateral negotiations are being conducted between Israel and Palestinian representatives (from the Israeli-occupied West Bank and Gaza Strip) and between Israel and Syria to achieve a permanent settlement. On 25 April 1982, Israel withdrew from the Sinai pursuant to the 1979 Israel-Egypt Peace Treaty. Outstanding territorial and other disputes with Jordan were resolved in the 26 October 1994 Israel-Jordan Treaty of Peace. On 25 May 2000, Israel withdrew unilaterally from southern Lebanon, which it had occupied since 1982.

**Geography - note:** There are 231 Israeli settlements and civilian land use sites in the West Bank, forty-two in the Israeli-occupied Golan Heights, twenty-five in the Gaza Strip, and twenty-nine in East Jerusalem (August 2000 est.). The Sea of Galilee is an important freshwater source.

**Population:** 5,938,093 (July 2001 est.), including about 176,000 Israeli settlers in the West Bank, about 20,000 in the Israeli-occupied Golan

Heights, about 6,900 in the Gaza Strip, and about 173,000 in East Jerusalem (August 2000 est.).

**Ethnic groups:** Jewish 80.1% (Europe/America-born 32.1%, Israel-born 20.8%, Africa-born 14.6%, Asia-born 12.6%), non-Jewish 19.9% (mostly Arab) (1996 est.).

**Languages:** Hebrew (official), Arabic used officially for Arab minority, English most commonly used foreign language.

### **Technological Incubators in Israel**

The technological incubators in Israel are autonomous non-profit organizations under the guidance and the support of the Office of the Chief Scientist of the Ministry of Industry and Trade. Each incubator is managed by a professional salaried director, a policy making management, and a project committee that selects and monitors the projects. Professionals from industry, business, and science, corporate and industrial executives, R&D managers in high tech enterprises, professors, faculty from research institutes, and public figures work on a voluntary basis in the incubators, devoting their precious time and valuable experience, contacts, and infrastructure of their enterprises and institutions.

The technological incubators established in Israel over the last decade constitute a supportive framework enabling beginning entrepreneurs with innovative technological ideas—veteran Israelis and new immigrants alike—to develop their ideas into commercial products and to reach the point at which they can attract capital investment from the private business sector. The technological incubator program supports novice entrepreneurs at the earliest stages and helps them implement their ideas by turning them into exportable commercial products and forming productive business ventures in Israel.

This is a very risky stage of business development, and commercial money does not take this kind of risk. Thus, in order to keep good ideas from failing, the State assumes the risks that commercial investors

are loathe to take, funding the riskiest stages of technology development through the incubators.

Through the technological incubators, the government provides entrepreneurs with physical premises, financial resources, tools, professional guidance, and administrative assistance to help them turn their abstract ideas into products of proven feasibility, novelty, advantages, and necessity in the international marketplace.

Each incubator is structured to permit ten to fifteen R&D projects to run simultaneously, and is organized and equipped to support the projects in all respects during their stay.

The principal purpose of the technological incubator is to help entrepreneurs successfully implement and commercialize their projects. For this purpose, the incubator provides the following services:

1. Assistance in determining the technological and marketing applicability of the idea and drawing up an R&D plan;
2. Assistance in obtaining the financial resources needed to carry out the project;
3. Assistance in forming and organizing an R&D team;
4. Professional and administrative counseling, guidance, and supervision;
5. Secretarial and administrative services, maintenance, procurements, accounting, and legal advice;
6. Assistance in raising capital and preparing for marketing.

The average time of each project in the incubator is approximately two years. During this time, the entrepreneur should carry his or her idea to the stage of explicit product definition and proven technological and market feasibility. After the two-year period, entrepreneurs should be able to continue on their own if necessary, availing themselves of regular channels of State support and, of course, outside investments.

Ownership distribution in the project company is as follows:

- At least 50 percent – the developer/entrepreneur;
- At least 10 percent – key staff members other than developers/entrepreneurs;
- Up to 20 percent – the provider of supplementary financing (i.e. additional to the state grant) for project implementation;
- Up to 20% - the incubator.

There are 24 technological incubators in Israel today, in the following locations: Jerusalem, Tel Aviv, Haifa, Beer Sheva, Dimona, Sde Boker, Ofakim, Ashkelon, Kiryat Arba, Yavne, Nes Ziona, Netanya, Hadera, Nesher, Ariel, Jezreel Valley (Migdal Ha'Emek), Jordan Valley (tzemah), Nazareth, Segev Bloc (Misgav), Haifa Bay, Golan Heights (Katzrin), and Upper Galilee (Kiryat Shmona). (See the following web sites for listings of incubators and contact information: [www.smallbusinessnotes.com/incubation/israel.html](http://www.smallbusinessnotes.com/incubation/israel.html), [www.science.co.il/Technology-Incubators.asp](http://www.science.co.il/Technology-Incubators.asp), )

#### *List of Incubators in Israel*

Business Incubator Program  
Office of the Chief Scientist  
Ministry of Industry and Trade  
4 Mevo Manatmid  
P.O. Box 2197  
91920 Jerusalem  
ISRAEL  
Tel.: 972-2-256368  
Fax: 972-2-248159  
Project Manager: Rina Pridor

The incubators are listed below according to their geographic region: the Galilee Hills and Lake Kinneret (including the Northern towns of Tiberias and Nazareth), the Coastal Plain (the "Sh'fela" region, dominated by Tel Aviv), the Hill Region (including Jerusalem), the Jordan Valley, and the Southern Region (including the Negev and the Red Sea



port of Eilat.) The contacts can provide detailed information on ongoing projects, including their progress and investment needs.

### **Galilee Hills and Lake Kinneret**

#### Center for Technological Development—Upper Galilee

Upper Galilee Regional Council

Kiryat Shimona

10200 Mobile Post Upper Galilee

ISRAEL

Tel.: 972-6-945611

Fax: 972-6-945637

Coordinator: David Avraham

Fields of Activity: Electronics, optics, metals, plastics, biotechnology, food, textiles, paper, and medical equipment.

#### Eltam-Technology Incubator, Ltd. Bldg. 2 Matam West

P. O. Box 600

31000 Haifa

ISRAEL

Tel.: 972-4-550484

Fax: 972-4-550372

General Manager: Yossi TurKaspa

#### Golan Initiative Center

Katzrin Industrial Zone

Katzrin, Golan Heights

P.O. Box 12

12900 Katzrin

ISRAEL

Tel.: 972-6-962561

Fax: 972-6-962564

Director: Dr. Lev Diamant

Coordinator: Uri Meir

Fields of Activity: Surface treatment of metals, special machines including electrical machines, sophisticated hardware-software systems with the emphasis on data processing for decision making.

Misgav Technology Center (Mati Misgav)

Leshem, Mobile Post Misgav 20179

ISRAEL

Tel.: 972-4-906793

Fax: 972-4-906355

General Manager: Eliahu Stern

Fields of Activity: Medical instrumentation, electro-optics, mechanical engineering, electronics, plant propagation, computer hardware and software, food, pharmaceuticals.

Nazareth Illit Technologies Entrepreneurs Center (NAIOT)

P.O. Box 678

17106 Nazareth Illit

ISRAEL

Tel.: 972-6-500764, 564092

Fax: 972-6-566735

Manager: Dr. Dov Derman

Fields of Activity: Medical instruments, computerized systems, biomechanical engineering, systems for industrial and agricultural applications, specialized chemicals and materials.

Technion Entrepreneurial Incubator Company, Ltd. (TEIC)

Gutwirth Park, Technion City

32000 Haifa

ISRAEL

Tel.: 972-4-325386

Fax: 972-4-228531

Director: Ami Lowenstein

<http://www.teic.co.il>

Fields of Activity: Instrument for measuring high forces, fine chemicals, agricultural sprayer, fish feedstuffs, ultrasonic liquid drier, novel hearing protector, vacuum monitor and measuring system, buoyancy control computer.

## COASTAL PLAIN—"SH'FELA"

Ashkelon Technological Industries (ATI)

P.O. Box 717

78601 Ashkelon

ISRAEL

Tel.: 972-7-752390/1

Fax: 972-7-752392

Managing Director: Jack Azran

<http://www.ati.co.il>

Incubator for Technological Entrepreneurship—Kiryat Weizmann, Ltd.

Building No. 3, Kiryat Weizmann Science Park

70400 Ness Ziona

ISRAEL

Tel.: 972-8-409086

Fax: 972-8-408085

General Manager: Dr. Shmuel Yerushalmi

Fields of Activity: Applied physics, computer science, applied mathematics, chemistry, biology, biotechnology, materials.

Rad Ramot –Hi-Tec Incubator, Inc.

32 Haim Levanon Street

61392 Tel Aviv

ISRAEL

Tel.: 972-3-6408113

Fax: 972-3-6429865

Director: Avshalom Horan

Soreq Technology Center Ltd.

P. O. Box 625

70600 Yavne

ISRAEL

Tel.: 972-8-434415

Fax: 972-8-434798

Manager: Dan Wolfman, General Manager

Fields of Activity: Electro-Optical components and systems, environmental technology, advanced materials, medical instruments and devices.

Y.T.B. Technological Enterprises In Ariel

P.O. Box 3  
Mobile Post Efraim  
44820 Ariel  
ISRAEL  
Tel.: 972-3-9364754  
Fax: 972-3-9366873  
General Manager: Naftali Raz

Yozmot—Granot Initiative Center

Mobile Post Hefer 38100  
ISRAEL  
Tel.: 972-6-321390/1  
Fax: 972-6-321392  
Director: Abraham Afori

## **HILL REGION**

Har Hotzvim

P.O. Box 23127  
921230 Jerusalem  
ISRAEL  
Tel.: 972-2-812380/1  
Fax: 972-2-812386  
General Manager: Yirmi Egert  
Fields of Activity: Thin film operation, micro-electronic components for digital systems, fine chemicals, instrumentation for measuring laser power and energy, radio navigation systems.

Jerusalem Software Incubator Ltd.

P.O. Box 23533  
91233 Jerusalem  
ISRAEL  
Tel.: 972-2-870012

Fax: 972-2-870015

<http://www.jsi.co.il>

Patir Research and Development, Ltd. (PATIR):

Jerusalem College of Technology Incubator

21 HaVaad HaLeumi

P.O. Box. 16031

91160 Jerusalem

ISRAEL

Tel.: 972-2-751123, 751111

Fax: 972-2-422075

Director: Joel Warschawski

Fields of Activity: Mammography workstation for more accurate diagnosis of breast cancer, a low-cost, real-time image processing system, an automated computerized monitor that identifies car license plates, a user-friendly tracker for PC users, software and hardware packages to permit speedy and accurate calibration of robots and trajectory planning of manipulators.

Scientific Incubators Company, Ltd

Park Center Building, Har Hotzvim

P.O. Box 23200

91231 Jerusalem

ISRAEL

Tel.: 972-2-870203/4

Fax: 972-2-870205

Director: Dr. Zvi Elgat

Fields of Activity: Medical software applications, lasers and laser applications, medical instrumentation and diagnostic equipment, electro-optical instrumentation and applications.

## JORDAN VALLEY

Mofet B'Yehuda—Industrial R&D in Judea, Ltd.

P.O. Box 80

90100 Kiryat Arba

ISRAEL

Tel.: 972-2-963880

Fax: 972-2-961571

Director: Manahem Livni

## SOUTHERN REGION

Advanced Technologies Center Association (ATC)

Temed Industrial Park near Dimona

206 Oron Road

86800 Arava

ISRAEL

Director: David Delbar

Tel.: 972-57-558631

Fax: 972-57-556106

Fields of Activity: Optronics, chemistry, energy, electronics,  
medical instruments, ecology, water and waste treatment,  
detection and identification, applied mathematics and advanced  
computing.

Am,-Shav—Technological Applied Development Center

Midreshet Ben-Gurion

84993

ISRAEL

Tel.: 972-57-558292, 556354, 565726

Fax: 972-57-558352

Director: Menashe Barak

Gat High Tech Center (GHTC)

P.O. Box 720

82000 Kiryat Gat

ISRAEL

Tel.: 972-51-811761/2

Fax: 972-51-811763

Managing Director: Dr. Uzi Mor

Fields of Activity: Advanced machinery and electricity, communications, textiles, electronics, robotics and automation, tubeless radiator cores, electrochemical machine of high accuracy and production rate.

Initiative Center of the Negev (ICN)

Rehov Yehoshua Hatzoref 15

P.O. Box. 844

84106 Beersheva

ISRAEL

Director: Lesley Anne Rubenstein

Fields of Activity: Smart card applications, hand manufacture of double reeds for the bassoon, photovoltaic lighting systems, metal cleaning equipment, automatic water purifying system.

<http://www.icn.co.il/>

Technology Center Ofakim

Kibbutz Galuyot Street

P.O. Box 633

80300 Ofakim

ISRAEL

Tel.: 972-57-925580/926641

Fax: 972-57-926581

Director: David Dolev

Fields of Activity: Energy, ecology, refrigeration and environment control, software, medical instrumentation, unique consumer and industrial products.

Technology Incubator– Arad

34 Chen Street

80700 Arad

ISRAEL

Tel.: 972-57-952579

Fax: 972-57-952693

Director: Yosef Dar

Fields of Activity: Commercialization of high technology inventions and patents, building on the human resources of veteran citizens and new immigrants.

Western Negev Initiative Center (WNIC)

P.O. Box 321

79779 Neve Dekalim

ISRAEL

Tel.: 972-7-846079

Fax: 972-7-847982

Internet: lal@bgumail.bgu.ac.il

Director: Dov Hinoch

Organizational Director: Yossie Gottesman

Fields of Activity: Technological improvement of the environment, marine and agricultural industry, desalination of sea water, purification of industrial waste water, products and technology for non-destructive testing.



## JORDAN

Data taken from:

<http://www.cia.gov/cia/publications/factbook/>

[http://www.middleeastwire.com/jordan/business/stories/20020221\\_meno.shtml](http://www.middleeastwire.com/jordan/business/stories/20020221_meno.shtml)

<http://www.queenrania.jo/fullprofile.cfm>

<http://www.go.com.jo/QNoorjo/main/nwo.htm>

<http://www.usaid.gov/about/jordan/microfinance.html>

<http://www.nhf.org.jo/whts.htm>

### General Information:

Jordan is located in the Middle East, northwest of Saudi Arabia. Since independence from British administration in 1946, Jordan was ruled by King Hussein (1953-1999). A pragmatic ruler, Hussein successfully navigated competing pressures from the major powers (US, USSR, and UK), various Arab states, Israel, and a large internal Palestinian population, through several wars and coup attempts. In 1989 he resumed parliamentary elections and gradually permitted political liberalization; in 1994 a formal peace treaty was signed with Israel. King Abdullah II, the eldest son of King Hussein and Princess Muna, assumed the throne following his father's death in February 1999. Since then, he has consolidated his power and established his domestic priorities.

**Population:** 5,153,378 (July 2001 est.)

**Ethnic groups:** Arab 98%, Circassian 1%, Armenian 1%

**Languages:** Arabic (official); English widely understood among upper and middle classes.

### Support for Small Businesses in Jordan

Since its establishment in 1985, the Noor Al Hussein Foundation has initiated and supported national, regional and international projects in the fields of integrated community development, education, culture, children's

welfare, family health, women and gender equality, and enterprise development. Queen Noor is the Chair of the NHF Board of Trustees and the active patron of its projects. The Foundation's basic mission is to promote integrated socioeconomic development that is sensitive to traditional values and responsive to the needs, talents, and aspirations of the people of Jordan.

The NHF programs have successfully advanced and modernized development thinking in Jordan by progressing beyond traditional charity-oriented social welfare practices to integrate social development strategies more closely with national economic priorities. The NHF projects promote individual and community self-reliance, grassroots participation in decision-making and project implementation, equal opportunity with special emphasis on the empowerment of women, and inter-sectoral cooperation.

The NHF's innovative projects and programs are designed to be applicable throughout the country and often throughout the region. The Foundation's endeavors reflect the Jordanian spirit of equitable development focused on people's needs and aspirations and an enduring tradition of caring. Each project speaks implicitly of a commitment to the common good, to standards of excellence, to innovative concepts in integrated development and to vigor in the pursuit of human creativity.

## **Projects**

### **Women and Enterprise Development**

The Noor Al Hussein Foundation's enterprise development projects achieve sustainability through a business-oriented, marketing approach that meets the needs of micro and small entrepreneurs.

#### Jordan Design and Trade Center

The Foundation's Jordan Design & Trade Center has been instrumental in reviving the dormant handicraft industry by combining international and domestic marketing with innovative product development and extensive training programs to upgrade technical and managerial skills of

numerous craft groups. The training programs emphasize international quality control standards and increase women's participation in community and family decision-making. These efforts have helped create thousands of jobs and preserve a unique aspect of the country's cultural heritage. The Jordan Design and Trade Center operates numerous retail outlets in Jordan and exports products to North America, Europe, the Persian Gulf and the Far East. Recognized as a model for the Arab region, the center has provided assistance to enterprise development projects in three other Middle Eastern countries.

### Aqaba Women's Center

The Aqaba Women's Center in Jordan's southern port city trains unemployed secondary school graduates and needy women in the production of marketable tourist items such as sports and swimwear, home furnishings and handicrafts. The center has also offered courses in the maintenance and repair of domestic electrical appliances, basic home safety, computer literacy and marketing, and serves as a cultural, social and recreational club for young women. The project also offers courses in women's leadership, environmental awareness and health education, as well as a children's library, which is frequented by around 400 young students per month, offering classes in translation, educational competitions and workshops on health and hygiene.

### Al Raya Garment Industry Project – Mafrq

The Foundation undertook the management of this scheme in 1989. The project aims at training low-income rural women in Mafrq in income-generating activities and providing them with job opportunities that will supply them with extra income. Al Raya is an industrial sewing workshop that trains women to manufacture an expanding line of children's attire, industrial uniforms and workers' clothing. Products are mainly sold in the local market through competitive vendors in private stores. The total number of beneficiaries since inception is about 330 women and their families.

### Kanza Knits – Russeifa

The project began at the beginning of 1994 with a training unit, which offers courses in knitting and sewing techniques related to the finishing process of knitwear garments. Since the implementation of the project until April 1998, the center has trained and graduated ninety-nine women, fifty of whom are currently working.

### Medicinal Herbs Project

The Medicinal Herbs Project enables women to turn their home gardens and unexploited lands into market gardens for aromatic and medicinal herbs such as thyme, sage and chamomile. The herbs are then sold as beverages or as raw materials for medicines. The scheme trains women to plant and supervise herbal gardens and to process, package and market their herbs in tea bag form or as condiments. In just over one year, the project produced an equivalent of 10% of Jordan's imports of thyme and sage, and continues to expand rapidly to benefit cooperatives and farmers throughout Jordan.

### Microfinance

The NHF is establishing a micro finance project to provide needed credit to thousands of micro entrepreneurs throughout the country. The project will complement the government's four-year plan to fight poverty and unemployment through greater access to financial services. This new effort is targeted to reach financial sustainability within six years.

### The Jordan Micro Credit Company (JMCC)

The JMCC is distinct in the world of micro-finance. The company disburses loans to individuals to expand their businesses, augment their incomes, and consolidate their economic stability. It has received high marks from international micro-finance experts and involved stakeholders alike.

Operating with the belief that micro-finance is a powerful development tool, JMCC has maintained an outstanding loan repayment rate of 100% and has distributed 1,274 loans so far. The company, which is a subsidiary of the NHF started in September, 1999, boasts a growing gender ratio—up to 37% female beneficiaries—which is steadily approaching its target of 50% women.

### The Jordan River Foundation

In 1995, Queen Rania established the JRF as a non-governmental organization. The Foundation's overall objective is to work at the grassroots level and to motivate low-income Jordanian families to participate in micro-finance and income-generating initiatives. The Foundation's projects include Jordan River Designs, Wadi Al-Rayan, and Bani Hamida. These initiatives not only assist women in raising additional sources of income to support their families, but are also designed to empower women to become decision-makers within their family unit, and to be skilled contributors to the Jordanian economy. Additionally, these projects have contributed to the revival of a heritage of craft production and tribal rug-weaving.

In 1998, and under the direction of Queen Rania, the Jordan River Foundation embarked on a micro-credit project that aims to deliver non-financial business support and training to micro-entrepreneurs in order to assist them in launching, expanding, and improving their small businesses. This initiative, which aims for long-term sustainability and the adoption of best practices, is an extension of Queen Rania's recognized involvement in the overall field of micro-finance in the international arena.

### National Federal of Business and Professional Women's Clubs (BPWC)

On 28 July 1997, Queen Noor opened the BPWC's business incubator service for women, the first of its kind in Jordan and in the Arab world. The incubators are situated in the BPWC's new headquarters and consist of a private work space area providing computer, phone, fax and photocopying facilities. They are near the club's Information and Documentation Center for Women, which collects and disseminates up-to-date

information with particular emphasis on subjects related to women entrepreneurs, professionals and managers. Available for a minimum cost, these facilities relieve the entrepreneurs from a heavy cost burden. To facilitate receiving loans, BPWC guarantees any approved loans and eventually hopes to start its own credit system. A business advisor is also available to help with small business management skills such as taxation, marketing, accounting and legal problems.

## **Sustainable Micro-finance**

Rising prices, increasing unemployment and growing poverty in the early 1990s were threatening Jordan's efforts at restructuring its economy to become more competitive regionally. To help counter these trends and to broaden participation in the economy, the U.S. Government initiated its support for the micro-finance industry in Jordan. Micro-finance development, providing credit and economic opportunity to the disadvantaged in the society, is a very important vehicle available for low-income citizens, particularly women, to improve their financial status.

Sustainable micro-finance is an important source of funding for micro and small businesses that traditionally have not had access to the formal financial system. These loans are generally short-term and are used for small working capital requirements. In addition, such lending programs emphasize self-sufficiency in operations through timely repayment of loans. Eventually, it is envisioned that micro-finance will largely replace the traditional subsidy system for the productive poor and "near poor" with a sustainable system that departs from the concept of charity.

The U.S. Agency for International Development (USAID) is investing around \$30 million in Jordan for its multi-year sustainable micro-finance initiative employing a unique, comprehensive approach to micro-finance - that of facilitating the development of an entire industry through providing training, technical assistance and capital necessary for Jordanian organizations to lend to small and micro businesses. This is achieved with the support of the Social Productivity Program (SPP) at the Ministry of Planning (MOP) and through the partnering of commercial banks and

non-governmental organizations (NGOs), based on internationally accepted “best practices.”

By November 2001, more than 80,000 loans were disbursed under USAID-supported lending programs to more than 33,000 borrowers for a total of almost \$32 million. Of these, 85 percent are women. Jordan’s micro-enterprises are represented in both the formal and informal sectors of the economy and cover a wide range of activities, including retail trade, services, garment making, handicrafts production, food processing, restaurants, furniture making, leather-crafts, jewelry making, agriculture and metal working. Jordan’s four micro-finance institutions (MFIs) are projected, by January 2002, to have 16,000 active clients, 50 percent of whom will be women and 30 percent will be outside of Amman.

Support for the sustainable micro-finance industry in Jordan is primarily achieved through the Access to Micro-finance and Improved Implementation of Policy Reform (AMIR) Program. The main objectives of the AMIR Micro-finance Initiative are improving the policy environment for the micro-finance industry, establishing Jordanian MFIs and providing them with technical assistance, and furnishing micro-finance training opportunities and programs.

## **Industry Support Infrastructure**

### Technical Assistance

Both the micro-finance institutions and the industry benefit from a comprehensive, ongoing program of technical assistance utilizing internationally-renowned micro-finance experts. This includes assistance with initial start-up of the MFIs, the provision of grants for operating expenses and initial loan capital, and assistance with long-term strategic and business planning through target market surveys and new product development.

## Microfinance Strategic Assessment

As part of USAID's on-going commitment to helping Jordan's working poor to improve their lives through their own efforts, a Strategic Assessment examining the status of Jordan's micro-enterprise and micro-finance sectors was commissioned. Information has been gathered from various parties involved in the industry, including central and municipal government officials, the MFIs, other non-governmental and quasi-governmental organizations involved in micro-finance, and active and potential micro-entrepreneurs. The Assessment made recommendations for the formulation of future national policies related to micro-finance.

## Policy Reform

In close coordination with the Government of Jordan (GOJ) Social Productivity Program (SPP), USAID is working to create a policy and legal framework conducive to the development of a sustainable micro-finance industry. Launched in 1998 by the Ministry of Planning (MOP) to address problems of poverty and unemployment, the SPP provides government support via the creation of a regulatory framework for Jordan's micro-finance industry. Issues include the registry of moveable assets, expediting small claims proceedings, revising the non-profit companies' law, and establishing a Credit Information Bureau law. Through the joint efforts of USAID and the GOJ, the two programs have successfully created a cadre of micro-finance service providers that are attuned to sustainability issues and micro-finance best practices.

## Credit Information Bureau

To facilitate the provision of credit by and to all appropriate sectors of Jordan's economy, a National Credit Information Bureau will be established. The Bureau will furnish credit providers with access to the information required to assess the creditworthiness of borrowers, such as borrowers' credit histories. With such information available, providers will be able to assess creditworthiness more efficiently, which in turn should increase access to financial services. The Jordan-based Talal Abu Ghazaleh & Co.



Consulting firm was chosen, through a competitive process, for this purpose.

### Wholesale Funding Facility

As a means of ensuring the sustainability of the MFIs after the completion of USAID assistance, a Wholesale Funding Facility was established in late 2001. USAID capitalized the Facility, which will help provide loan capital to the MFIs at commercial rates of interest. Citibank-Jordan will manage the Facility on a fee-for-service basis. The Facility's capital will collateralize guarantees, issued by the Facility manager, to support lines of credit the micro-finance institutions have obtained from local commercial banks. As the commercial banks develop favorable credit histories with the MFIs, guarantees will eventually become unnecessary and the MFIs will "graduate" from dependence on the Facility and receive, as capital contributions, their pro-rata shares of the Facility's capital.

### Lending for Start-Up Businesses

Drawing on the MFIs excellent outreach and credit evaluation expertise, a cooperative arrangement has been reached with the Development and Employment Fund (DEF) to provide the MFIs with capital for lending specifically to start-up businesses. This arrangement will further enhance the livelihoods of Jordan's working poor by facilitating micro and small business enterprise.

### Backward Linkages Pilot

Large Jordanian businesses could outsource many services and manufacturing inputs to small and micro businesses. However, stronger outreach programs are needed to inform small and micro businesses of these opportunities as well as to inform large businesses of the capabilities of these smaller businesses. To this end, a backward linkages pilot program has been initiated with the cooperation of the Jordan Investment Board and the Zarqa Chamber of Industries to match the outsourcing requirements of manufacturers with the supply capabilities of small and

micro businesses. “Lessons learned” from this pilot project will then be applied to larger linkages programs.

#### Microfinance Association of Jordan (MAJ)

With the introduction of the micro-finance industry in Jordan, it was necessary to establish an association for sustainable micro-finance practitioners to assume advocacy for the industry, provide a forum for discussion of industry issues, and deliver training. The Micro-finance Association of Jordan (MAJ) was registered in early 2001 and is still in its embryonic phase.

#### Management Information Systems (MIS)

As the MFIs grow along with their client bases, more sophisticated management information systems (MIS) are required. USAID’s assistance to the MFIs in developing a common MIS that serves the purposes of all the MFIs involved would lower the development costs, allow MFIs to share data more easily as well as bring together the MFIs, thus strengthening the micro-finance industry in Jordan.

#### Donor Coordination

With a considerable number of donor-supported initiatives underway in Jordan, the Jordan Donors Coordination Council has been established to enhance the effectiveness of donor-supported programs by exchanging information and seeking areas of cooperation.

#### Public Awareness

Since the start of the comprehensive micro-finance initiative in 1998, public awareness activities have constituted an essential part of USAID’s assistance. Aiming at introducing and promoting micro-finance to the Jordanian public, brochures detailing the micro-finance initiative and featuring profiles of successful micro-entrepreneurs were produced in both English and Arabic. In addition, technical assistance was provided to the MFIs for the production of their promotional and communication

materials. Media representatives were constantly included in micro-finance-related seminars and study tours.

Her Majesty Queen Rania Al-Abdullah's emergence as a spokesperson for micro-finance on the world stage has provided a great boost for the industry. In June 1999, Queen Rania gave one of the keynote addresses at the USAID-sponsored "Lessons Without Borders" micro-finance conference in Chicago. Also, during a trip to Washington in April 2001, Her Majesty gave remarks at the CHF/Micro-enterprise Coalition Reception held on Capitol Hill. Later, in June 2001, Her Majesty participated in the Capitol Hill celebrations of the passage of the Micro-enterprise for Self-Reliance Act - a bill to provide loans to small-business owners in developing nations. Additionally, to commend outstanding Jordanian micro-entrepreneurs and micro-finance practitioners on their achievements, Her Majesty has presented them with awards during the two Annual Jordan Micro-entrepreneur Award ceremonies in 1999 and 2001.

## Training

One of the major pillars of the USAID-supported micro-finance initiative in Jordan is human resource development for micro-finance practitioners as well as the micro-entrepreneurs.

### Sustainable Micro-finance Training Program (SMTP)

A formalized curriculum presented in a workshop setting with a focus on international "best practices" and tailored to regional needs was developed by Shorebank Advisory Services and offered at the Institute of Banking Studies (IBS). The first Arabic language program in the Middle East region, the SMTP involves two course levels - basic at the field officer level and advanced at the senior administrative level - designed to provide a comprehensive understanding of micro-finance, including operational and financial management, loan portfolio management, marketing and management information systems.

At the start of the program, sixteen micro-finance specialists were trained and certified to conduct the 8-week Basic and Advanced Courses. Trainees from Jordan's sustainable micro-finance institutions, the banking community and government subsidized micro-lending institutions as well as from institutions throughout the Middle East and North Africa (MENA) region attend this program to acquire the necessary tools to create and operate a successful sustainable micro-finance program. Since its inception in April 1999, the SMTP has graduated approximately 240 trainees.

### Short-Term Training Programs

In addition to the formal training at IBS, USAID, through the AMIR Program, sponsors micro-finance practitioners and personnel from other sectors of the financial services industry for various in-country and overseas training programs. In-country training programs included Designing Micro-finance Programs, Strategic Planning, Management and Internal Control, and Board Governance. Third-country programs included study tours to Chile, Bolivia, Italy, and Egypt. U.S.-based training programs have included the Economic Institute in Boulder, Colorado Micro-finance Training Program, the Berings Micro-finance Business Planning and Financial Modeling Program in Washington, D.C., and the Micro Enterprise Development Institute Conference in New Hampshire. The total number of people benefiting from these programs has exceeded 1,000.

### Support to Business Training for Micro and Small Enterprises

Funded by USAID and UNDP and implemented by the International Labor Organization (ILO) with support from GOJ's SPP, this program aims at developing and institutionalizing a comprehensive business-training program for potential and existing micro-entrepreneurs. To achieve this goal, three training courses were developed - "Start Your Business," "Improve Your Business," and "Expand Your Business." Sixteen trainers were trained to deliver these training modules, with an additional 17 to complete their accreditation shortly. The Jordanian American Business Association (JABA) has been selected as the focal point for the implementation of these training modules. In addition, two partner institutions - Jordan River Foundation (JRF) and the Small Business Development

Center of the Jordan Hashemite Fund for Human Development (JOHUD)  
- have been selected to institutionalize the delivery of these courses.  
Already these partner institutions are delivering the training modules in  
the southern and central governorates of Jordan.

## KAZAKHSTAN

Data taken from:

<http://www.cia.gov/cia/publications/factbook>

<http://www.delkaz.cec.eu.int/en/item1/nl5.htm>

<http://www.kabic.kz/index.htm>

[www.efcentralasia.org/doc/Kaz\\_Feb\\_5\\_01\\_eng.htm](http://www.efcentralasia.org/doc/Kaz_Feb_5_01_eng.htm) - 6k

[http://www.efcentralasia.org/doc/Kaz\\_Sept\\_6\\_99\\_eng.htm](http://www.efcentralasia.org/doc/Kaz_Sept_6_99_eng.htm)

<http://www.unece.org/trade/entdev/bi-main.htm>

### General Information:

Located in Central Asia, northwest of China. Native Kazakhs, a mix of Turkic and Mongol nomadic tribes who migrated into the region in the 13th century, were rarely united as a single nation. The area was conquered by Russia in the 18th century and Kazakhstan became a Soviet Republic in 1936. During the 1950s and 1960s agricultural “Virgin Lands” program, Soviet citizens were encouraged to help cultivate Kazakhstan’s northern pastures. This influx of immigrants (mostly Russians, but also some other deported nationalities) skewed the ethnic mixture and enabled non-Kazakhs to outnumber natives. Independence has caused many of these newcomers to emigrate. Current issues include: developing a cohesive national identity; expanding the development of the country’s vast energy resources and exporting them to world markets; and continuing to strengthen relations with neighboring states and other foreign powers.

**Population:** 16,731,303 (July 2001 est.)

**Ethnic groups:** Kazakh (Qazaq) 53.4%, Russian 30%, Ukrainian 3.7%, Uzbek 2.5%, German 2.4%, Uighur 1.4%, other 6.6% (1999 census)

**Languages:** Kazakh (Qazaq, state language) 40%, Russian (official, used in everyday business) 66%.

Small and medium-sized business are very widely developed in the European countries. In some countries small businesses account for as much as 70% of the national economy. Although the situation in Kazakhstan is rather different, there have been some positive changes in recent years. The financial support of the European Union's Tacis Program in the development of Kazakhstan's private sector plays a positive role.

Today there is only one large project under the EU's Tacis Program underway in Kazakhstan. The entrepreneurs trained under the project have opened many small businesses in Almaty, Astana, Karaganda, Aktobe and other cities in Kazakhstan. The European experts trained people in the basics of modern economics, accounting systems, management and taxation, which has significantly helped to further the development of their businesses.

#### Eurasia Foundation

The Eurasia Foundation is an independently managed grant and loan making organization headquartered in Washington, DC, and sponsored by the US Agency for International Development (USAID). With a mandate to support organizations working at the grass roots level, the Foundation fosters the growth of democratic institutions and a viable market economy in Kazakhstan. Through an open-door policy designed to encourage individual empowerment and civic initiative, the Foundation responds to local funding needs by providing financial support to Kazakh organizations for economic development, civic initiative, educational advancement, and independent media.

The Foundation, has awarded four grants totaling \$118,595 to Kazakhstani organizations. The Kazakhstani Association of Business Incubators and Innovation Centers received \$34,992 in grant awards (30% total from the USAID).

## **Kazakhstan's Association of Business Incubators and Innovation Centers (KABIIC)**

The KABIIC was created on September 29, 2000, in the city of Almaty, Republic of Kazakhstan. The mission of the association is to develop infrastructure for entrepreneurs through the support of business incubators and innovation centers (BIIC), technological parks, and other related organizations.

### **KABIIC's goals and tasks:**

- Create and support a single information network for entrepreneurial infrastructure;
- Reduce unemployment;
- Disseminate material on positive experiences and favorable practices for creating and developing BIIC;
- Assist in the development and implementation of progressive ideas, projects and programs that support the assimilation and mastery of new technology;
- Defend and advance the interests of KABIIC members in the government, society and other entities.

Successful economic development in the Republic of Kazakhstan (RK) requires the presence of a middle class, represented in large by small business owners. These entrepreneurs increase the volume of production and the number of jobs, which helps economic growth. Therefore, the current initiative to support entrepreneurs is becoming a government priority, specifically in the areas of production and innovation.

The majority of business incubators and innovation centers (BIIC) in the RK was created between 1999-2001. These new BIICs are still developing and have not yet reached a financially self-supporting state, and therefore need support from the government and other organizations. KABIIC was founded to help BIICs meet these needs.



At present there are unofficially 44 BIIC in RK, but no more than 15 actually work effectively enough to meet the qualifications for joining KABIIC. This is due to the following factors:

- Weak theoretical and practical training of BIIC managers;
- Incomplete groundwork for BIIC norms in the RK;
- Absence of understanding and required structural support by government and local organizations of power;
- Limited finances and information.

In 1999 Citibank donated \$25,000 to the Atyrau Business Contact Development Center. This was to be supplemented by a \$100,000 grant to support a micro-credit program. Working in collaboration with the Eurasia Foundation, Citibank representative Reza Ghaffari stated, "With this donation, Citibank signals its commitment to small business development in Atyrau and Kazakhstan. We believe that the growth of small and medium-sized businesses in Kazakhstan will be key to the country's efforts to become a significant player in the international marketplace. Citibank is proud to play a part in building a stable economy for Kazakhstan."

The Atyrau Business Development Center provides business planning and consulting services to new entrepreneurs in Atyrau City. Opened in 1999 with support from the United Nations Development Project and Chevron, the Center has already helped entrepreneurs to secure more than \$1,000,000 in loans and grants. The Center is directed and staffed by local employees and receives ongoing assistance from international consultants.

Citibank's donation provided the center with a multi-media computer to be used to develop brochures, materials and a "Yellow Pages" of Atyrau. With assistance from Eurasia Foundation staff, the Center is also developing a database of local and international firms that operate in the Atyrau region. Citibank will soon be donating additional computers and materials to enable the Center to provide increased services to more entrepreneurs in the Atyrau community.

Citibank. Citibank Kazakhstan is a fully licensed commercial bank. It opened for business in July 1998 and it serves clients all over Kazakhstan, from Ekibastuz to Atyrau and from Almaty to Karaganda. It is headquartered in Almaty at 41 Kazibek Bi Street. Citibank Kazakhstan is a fully owned subsidiary of Citibank, the banking arm of Citigroup. Citigroup is the world's largest provider of financial services with assets exceeding USD 700 billion, and with a presence in 102 countries. The Citigroup subsidiaries also include Solomon Smith Barney, The Travellers Insurance, and Primerica Financial Services.

In addition, the US Agency for International Development (USAID), through five Enterprise Development Centers (EDC) located throughout the country, is delivering a comprehensive package of information, technical assistance, and business training and advisory services to entrepreneurs and business managers. Business training and business advisory services draw on donor synergies by focusing on SMEs that receive small business loans from the European Bank for Reconstruction and Development (EBRD). Work with accounting reform, advocacy group development and professional associations continues to improve the SME environment by promoting greater transparency and accountability. In partnership with a Central Asian regional accounting federation, USAID supports a training, examination and certification program that complies with international standards of accounting and audit. A new Regional Trade Promotion activity is facilitating regional trade through an internet-based regional trade network. At USAID's Quality Management Center, SMEs may acquire ISO (International Product Standards) product certification. USAID continues to deliver a wide range of volunteer technical assistance, including business consulting and business association development that strengthens business skills and practices and develops greater advocacy for reform. Finally, USAID's Resource Network for Economics and Business Education (EdNet) gives college students greater access to information and opportunities to succeed in the free market by training professors in economics and business education and making available teaching materials, and providing research opportunities and scholarships.

USAID also provides targeted business skills and training courses to entrepreneurs and business managers in the agricultural sector, including business planning, strategic marketing, and financial accounting. Through the MASHAV Cooperation Agreement, Agriculture Consulting Centers are bringing modern greenhouse technology to Kazakhstan to support increasing demand for high-value crops due to the rising number of petroleum workers in the Atyrau Region. USAID is developing a new financial instrument through its grain warehouse receipts program, which, when fully operational, will give farmers access to capital using grain as collateral, thereby giving them greater opportunity to grow their agribusinesses. USAID is also supporting the Kazakhstan Community Loan Fund, which provides micro-finance and business support to micro and small enterprises, a number of which are agricultural. Through the Farmer-to-Farmer program, USAID sponsors executive volunteers to deliver industry-specific technical assistance to small and medium agribusinesses.

## KYRGYZSTAN

Data Taken From:

<http://www.cia.gov/cia/publications/factbook/>

<http://www.unecce.org/trade/entdev/bi-main.htm>

### General Information:

Located in Central Asian, Kyrgyzstan is a country of incredible natural beauty and proud nomadic traditions, which was annexed by Russia in 1864; it achieved independence from the Soviet Union in 1991. Current concerns include: privatization of state-owned enterprises, expansion of democracy and political freedoms, inter-ethnic relations, and terrorism.

**Population:** 4,753,003 (July 2001 est.)

**Ethnic Groups:** Kirghiz 52.4%, Russian 18%, Uzbek 12.9%, Ukrainian 2.5%, German 2.4%, other 11.8%

**Languages:** Kirghiz (Kyrgyz) - official language, Russian - official language *note:* in May 2000, the Kyrgyzstani legislature made Russian an official language, equal in status to Kirghiz

According to a United Nations publication (ISBN 92-1-116777-9), the European Training Foundation provided support in the field of retraining for small and medium-sized enterprises (SMEs) in Kyrgyzstan. The development of SMEs as well as the encouragement of entrepreneurial talent is both particularly important given their central role in the creation of employment in the region.

In 1997, the Ministry of Labor and Social Protection, which has the responsibility for organizing and monitoring initial training in entrepreneurship, decided to set up "business incubators" at a number of vocational training schools in Kyrgyzstan. The aim was to provide training and advice in order to nurture young entrepreneurial talent. Unemployed young people were especially targeted.

The Foundation's input (carried out by Bayerisches Zentrum für Ost-West Management training gGmbH - OWZ Bavaria) was to support the retraining of trainers that were employed at the aforementioned business incubators. This consisted of a week long advanced course for 30 trainers/advisors from an array of business development units located within the incubators. The ultimate objective was to enhance the quality of training for those following courses covering the starting up of new businesses.

The European Training Foundation was also involved in the mechanics of the pilot project's set-up at the beginning of 1999, its origins emanating from a Foundation Advisory Forum sub-group discussion in 1997. The achieved objectives of this pilot study were:

- Modern training methods were implemented, taking the local and national situation into consideration.
- Local experts involved in the project were able to obtain sufficient training to assume responsibility for the running of seminars and courses autonomously.

The majority of participants described the seminars as "very helpful". In concrete terms the reasons for this reaction included the following:

- Seminars were practical.
- Many new aspects of methodology and content were discussed.
- A spirit of cooperation and a good working atmosphere was evident.
- On the basis of the experience of this initial pilot project, observers from other Tacis countries (Uzbekistan and Kazakhstan) felt that it would be advantageous to set up similar projects in their own countries.
- The linkage of the train-the trainer project with the development of business incubators was decisive.
- Local experts were highly motivated and demonstrated commitment to the project at every stage.

The practical results of the project included:

- The successful training of trainers for the business incubators.
- Establishment of 22 business incubators from all regions of Kyrgyzstan, and eight in Kazakhstan and Uzbekistan which are now familiar with the implementation of modern training methods (for example case studies). They have, in turn, been able to pass this information on to their colleagues.
- Drafts for the outline of a concrete business plan for business incubators and a working list of tasks to be done in order to develop prospering business incubators.

In light of the positive experience gained from this particular foundation project, further measures for similar future projects in Central Asia and the Tacis countries have been recommended. Firstly, that a series of follow-up activities starting about three months after the termination of a project would be beneficial. This would provide newly retrained trainers with the support that might be required as they apply their newly acquired skills. Secondly that the European Training Foundation should establish a group of central Asian trainers (12-16 local experts) who could substitute western experts over the longer term. These experts could also be used as a reference point in the building up of business incubators within the Tacis region.

Business incubators in Kyrgyzstan can be non-governmental organizations, public foundations or private companies and their goals are:

- the development of small and medium-sized enterprises;
- a decrease in unemployment through job generation;
- improved well-being for people through a higher standard of living.

The legislation regulating the juridical status of such activities includes different private-enterprise related laws, such as the Civil Code, the Bill of State Registration and the Government Decree of the Basic Scheme for the Classification of Enterprise Types. However, there are no

laws or government decrees regulating the operations of business incubators per se.

In Kyrgyzstan the services provided by business incubators to the client companies can be presented under the following headings:

Premises for enterprises: premises for enterprise administration; and for joint use by several companies (training classes, conference rooms, rooms for meetings, space for office equipment, storage rooms).

Office services:

- access to common office equipment;
- secretarial services;
- information services;
- joint bookkeeping services;
- telephones;
- access to translators and interpreters, as appropriate;
- assistance in negotiations;
- advertising services;
- publication and related services;
- security and cleaning services;
- furnishing services.

Consulting and training:

- assistance in preparing business plans and financial applications;
- venture capital of the incubator available for the enterprises;
- assistance in finding access to financial resources;
- financial guarantees for the enterprises.

Provision of business contacts:

- assistance in establishing contacts with business communities.

## **USAID Activities in Kyrgystan**

The USAgency for International Development provides business training to assist entrepreneurs, including agribusinesses, with planning,

accounting, marketing and other aspects of successful business development. The USAID-supported International Fertilizer Development Center assists entrepreneurs who provide critical agricultural inputs. It also works to develop trade associations for seed and other agricultural input production, information systems, and output marketing. USAID training promotes private land ownership, land market development, the elaboration of water law and water user rights, and post-privatization support. In the Osh oblast, located in Kyrgyzstan's part of the Ferghana Valley, rural citizens receive independent and objective legal advice that focuses on the non-violent resolution of land-related disputes. As part of USAID's Cooperation Agreement with MASHAV, Agriculture Consulting Centers deliver a wide range of technical assistance and consulting services devoted to developing agribusiness. Through participation with the government of Kyrgyzstan, USAID is supporting the Osh Agricultural Initiative to support economic reforms in the Ferghana Valley, including increasing the availability of credit, delivering technical and advisory services to agribusinesses, and developing a legal and regulatory environment that fosters greater investment and accelerates SME growth.

USAID also supports the Investor Roundtable, which includes the President of Kyrgyzstan and the US Ambassador, to help remove existing trade barriers, stimulate foreign investment, and foster a more favorable climate for SME growth. Through Enterprise Development Centers (EDC) in Bishkek and Osh, USAID's SME Development project is delivering a comprehensive package of information, technical assistance, and business training and advisory services to entrepreneurs and business managers. Business training and business advisory services draw on donor synergies by focusing on SMEs that receive small business loans from the European Bank for Reconstruction and Development (EBRD). Work with accounting reform, advocacy groups, and professional associations continues to improve the SME environment by promoting greater transparency and accountability. In partnership with a Central Asian regional accounting federation, USAID is supporting a training, examination and certification program that complies with international standards of accounting and audit. A new Regional Trade Promotion activity is facilitating regional trade through an internet-based regional trade network. USAID continues to deliver a wide range of volunteer technical assistance,



including business consulting and business association development that strengthens business skills and practices and develops greater advocacy for reform. Finally, USAID's Resource Network for Economics and Business Education (EdNet) is offering college students greater opportunity to succeed in the free market by training professors in economics and business education, as well as making available teaching materials, and providing research opportunities and scholarships. The USAID-supported Small Enterprise Assistance Fund (SEAF) will provide equity, term-debt, and lease financing that gives entrepreneurs access to investment capital to operate and expand their businesses. USAID is also developing a banking reform program to strengthen the commercial banking sector.

## LEBANON

Data Taken From:

<http://www.cia.gov/cia/publications/factbook/>

<http://www.etf-lebanon.org/index.htm>

### **General Information:**

Located in Middle East, bordering the Mediterranean Sea, between Israel and Syria.

**Population:** 3,627,774 (July 2001 est.).

**Ethnic groups:** Arab 95%, Armenian 4%, other 1%

**Languages:** Arabic (official), French, English, Armenian.

The Entrepreneurial Training Foundation (ETF) is a non-profit youth development organization. The foundation's main objective is to improve the livelihood and future prospects of the youth in Lebanon by enhancing their entrepreneurial skills and equipping them with the knowledge for starting small businesses. The aim is to improve their own socio-economic situation and that of their communities.

ETF is an independent non-sectarian organization that caters to all Lebanese youth irrespective of their gender. ETF functions in rural areas and less privileged neighborhoods in the bigger cities. The means by which the foundation empowers its graduates is by equipping them with the appropriate skills and knowledge, then financing their planned projects for establishing small businesses if such plans are viewed to be promising.

The Entrepreneurial Training Program was developed after thorough research was conducted on several other successful programs in both developed and developing countries, then adapted for the perceived needs of the local market. This program is designed for individuals who

desire to develop entrepreneurial skills in order to successfully start small businesses of their own.

Phase I – Duration: Three days – 20 to 24 hours of training.

- “images/bbull.gif”Introduction to Small Businesses
- “images/bbull.gif”Introduction to Accounting & Book-Keeping
- “images/bbull.gif”Starting a Small Business “images/bbull.gif”
- Financing Small Businesses
- “images/bbull.gif”Private Enterprise System “images/bbull.gif”
- Organization & Management of Small Businesses
- “images/bbull.gif”Pricing and Marketing “images/bbull.gif”
- Legal & Fiscal responsibilities

At the end of Phase 1, and during the one-week period between phase I & II, trainees are given special assignments in order to present their business plans properly, including thorough discussions with their trainers.

Phase II - Duration: Three Days – 20 to 24 hours of training

- “images/bbull.gif”Use of Computers in Small Businesses “images/bbull.gif”
- Introduction to the Internet and E-mail
- “images/bbull.gif”Developing a Business Plan “images/bbull.gif”
- Business Ethics & Environmental Responsibilities “images/bbull.gif”
- Success and Failure in Small Businesses

Trainees are required to submit their business plans within three to four weeks from the end of phase II.

### Eligibility

- Interested needy youth who are 20-35 years of age.  
“images/rbullet.gif”
- Holders of the Lebanese Baccalaureate or its equivalent (BT or TS).
- “images/rbullet.gif”Have a fair command of English.
- “images/rbullet.gif”Unable to raise the financing from banks, family members or other sources.
- “images/rbullet.gif”Have a sound business proposition.
- “images/rbullet.gif”Entrepreneurially inclined.
- “images/rbullet.gif”Computer literate.

### **Netakeoff**

This is a full service incubator/accelerator in Lebanon dedicated to the development of internet and technology firms by providing seed capital, office facilities, business assistance, technology know-how, and other support services in return for an equity stake in the incubated companies. The business model allows entrepreneurs to rapidly focus on building a strong market position, and thereby winning the crucial time-to-market race.

### Netakeoff

POBox 4396

Beirut, Lebanon

Tel: 961-3-629 425

Fax: 961-1-818 755

E-Mail: [wsolh@netakeoff.com](mailto:wsolh@netakeoff.com)

Comments: First internet incubator in the Arab World.

## PAKISTAN

Data taken from:

<http://www.cia.gov/cia/publications/factbook/>

<http://www.pakboi.gov.pk/investpak/investpak-l4-sector-investment-profile.htm>

<http://www.unido.org/Periodical.cfm?did=421624&pername=UNIDOSCOPE#chapter2>

<http://www.pseb.org.pk/Events/index.cfm>

### General Information:

Pakistan is located in Southern Asia, bordering the Arabian Sea, between India on the east and Iran and Afghanistan on the west and China in the north.

**Population:** 144,616,639 (July 2001 est.).

**Ethnic groups:** Punjabi, Sindhi, Pashtun (Pathan), Baloch, Muhajir (immigrants from India at the time of partition and their descendants).

**Languages:** Punjabi 48%, Sindhi 12%, Siraiki (a Punjabi variant) 10%, Pashtu 8%, Urdu (official) 8%, Balochi 3%, Hindko 2%, Brahui 1%, English (official and lingua franca of Pakistani elite and most government ministries), Burushaski, and other

### Pakistan's Business Incubator

Approximately 400 officers, in their early 40s retire from the Pakistan Army each year. In 1996, with the co-sponsorship of the Experts Advisory Cell of the Ministry of Industries and Production, the Army Welfare Trust (AWT) asked UNIDO to provide the technical assistance for the establishment of a Business Incubator, to encourage ex-officers to opt for starting businesses.

By July 1997, Pakistan's pilot business incubator Askari Commercial Enterprises (ACE), was up and running. Although primarily a subsi-

dized assistance scheme for retired army officers, ACE has a 30 percent quota for civilians. By nurturing start-up and early-stage enterprises at managed workspaces, incubators greatly increase their chances of survival and success.

ACE provides a range of services, including:

- subsidized accommodations in a good location for up to 12 months
- basic secretarial services
- office equipment, email and internet services at cost
- free in-house guidance by experts hired at AWT's expense
- loan and leasing facilities to financially viable projects through AWT's Askari Commercial Bank Limited and Askari Leasing Limited, at subsidized rates
- guidance and assistance from the Ministry of Industries, Government agencies and UNIDO; and
- access to technology transfer networks such as INTET Pakistan and the UN Asia Pacific Center for Technology Transfer Network (APCTT).

In addition to the technical, advisory and infrastructural support provided by the incubator, ACE also offers short business courses to develop entrepreneurial skills. So far it has conducted 12 courses, each six weeks long, focusing on such topics as the legal aspects business and the essential elements of finance and accounting, market research and marketing. A course on taxation for small business was planned for August and another entrepreneurship course (jointly with the Rawalpindi Chamber of Commerce and Industries) started in September. Participants in the courses so far number 267, of which approximately half are non-military personnel.

After distributing certificates at the last ACE course in June 2001, the Adjutant General of the Pakistan Army, Lt-Gen Ali Muhammad Jan Aurakzai, asked ACE to submit a proposal for the replication of business incubators in other cities. Another indicator of its success is that the newly-reformed Small Business Finance Corporation of Pakistan (SBFC)

has chosen ACE as its consultant on small and medium-sized enterprise (SME) projects.

Studies undertaken to evaluate incubation successes in Western Europe and North America suggest that business incubators can reduce the failure rate of start-ups to below 10 percent over a three year period (compared with failure rates of between 60 and 80 percent for small businesses generally). Experience to date indicates that a high degree of support from public authorities is necessary to sustain the operations of business incubators.

According to the American National Business Incubation Association, there are currently some 800 business incubators in North America. If developed countries assume their start-ups need such nurturing, the concept should prove particularly relevant to the industrializing countries, given the exceptionally difficult environment in which entrepreneurs operate and the generally weak infrastructure of business services available to them. One consequence of this is that business incubators in developing countries need to provide the full range of services prescribed by the model, whereas elsewhere this may not be the case. Another important emphasis needed in developing countries is the provision of outreach services, given the nature of entrepreneurship and the role played by the “informal sector.”

### Information Technology

IT has opened up vast new avenues for developing countries such as Pakistan to use the creativity of their young through education and training and to make fuller use of their talented youth for national development. At present, Pakistan is well placed with 139 million people, the majority of whom are below the ages of 30 and speak English. Efforts are being made to train a critical number of the youth in the important field of IT and to provide them with opportunities at home to use their skills in a variety of IT-related programs. What is particularly attractive about IT for countries such as Pakistan is the speed with which it can be adopted. The key factor is training of human skills and provision of opportunities for commercial development.

## **Export potential and human resource needs**

According to one estimate one IT professional can, on average, generate at least \$30,000 of exports per year. In order to have an export of over one billion dollars, Pakistan needs to have about 40,000 IT professionals.

The Government of Pakistan has targeted producing 100,000 high quality IT graduates in Pakistan each year in order to have multi-billion dollar exports. To achieve this target it was decided that 60-70 percent of the budget assigned by the government for the IT sector should go into the field of human resource development.

A broad-based program has been initiated, including the strengthening computer science departments so that the country can produce a large number of highly qualified graduates, MSCs and PhDs. Some 31 computer science departments in the universities are being strengthened and a number of short term training programs to develop the basic computer skills of people have started.

## **Foreign investments**

Investments of over Rs 12 billion have been announced in the current financial year 2000-2001 in the telecommunication and IT sectors. Oracle is investing Rs120 million for setting up operations in Sindh, similarly Cisco has decided to set up a series of networking academies, and IBM is investing in setting up 10 IBM training centers. CERN (Geneva) is in the process of setting up a large computer center in Islamabad.

The first call center has been set up in Lahore and has recently started functioning as a result of the government's decision to allow their free establishment. A major tele-housing project and a voice-over-IP project are being set up under the auspices of PTCL. The liberalization of this sector is generating tremendous excitement among investors because IT is the hottest growing world industry at the moment and the



incentives and measures which we have taken have generated world-wide interest.

A major program has also been launched to promote e-commerce in the country. Internet merchant accounts have been allowed by the State Bank of Pakistan and a time frame has been given to the National Bank of Pakistan and Habib Bank of Pakistan to enable e-commerce to become a normal mode of trading within the year. The necessary e-commerce laws have also been prepared and are now in the process of being vetted by the law division to allow them to be implemented in the country.

#### IT achievements – a summary

- Over 350 software houses developing and exporting software in diverse areas including database management, Internet applications, E-commerce, CAD/CAM management systems, etc.
- Low cost of Internet bandwidth.
- Internet service provider license applications can be processed in seven days.
- The Central Bank has allowed the opening of Internet merchants accounts within Pakistan.
- The telecom infrastructure is 90% digitized.
- 60 ISP's are presently operating in major cities and remote areas.
- 10,000 computer science graduates are being produced annually.
- Strong international linkages have been established through expatriate Pakistani IT professionals.
- Software exporting companies have been allowed to retain 25% of their earnings in foreign exchange accounts.
- An income tax holiday for IT training institutions for five years up to year 2005 has been implemented.
- Internet delivery on cable TV is allowed.
- Establishment of venture capital companies like PakVenCap.com have been established specifically for providing seed capital to emerging IT ventures.

- IT education has been integrated with that of other related disciplines like management and engineering.
- Non-degree technical programs in both software and hardware development have been encouraged for non-IT graduates.
- There is uninterrupted availability of both power supply and conductivity.
- Well trained IT professionals/teachers are available at training institutes.
- Legal and regulatory frameworks have been instituted for development of E-commerce activities.
- Additional incentives have been provided to private investors and venture capital firms to establish business incubators for Pakistan-based companies.
- Overall investment climate has improved and attracts foreign investment in IT ventures from global IT Vendors like Netsol, Acer, Intel, Compaq, Dell, NCR, Gateway, IBM, Microsoft, Oracle, and expatriate Pakistani IT professionals.
- The Government has encouraged establishment business incubators in its foreign missions, such as the “Jinnah Center of Technology” at Pakistan’s High Commission in Singapore.
- “Software Technology Parks are being established in the major cities of Pakistan to act as one-window solutions to the needs of software companies/houses.
- A Technocity is being planned.
- The Ministry of Science and Technology has started training facilities for ‘Medical Transcription’ for encouraging development of medical transcription services in Pakistan.

In 1995 the Pakistan Software Export Board (PSEB) was established by the government of Pakistan as an independent body to bring to world attention the new information age of Pakistan. Since then it has grown steadily and established a number of support programs to further growth in this sector.

The first technology park in Islamabad back established in 1997, is now home to several local as well as international IT companies. Now the second technology park in Lahore, capital of the Punjab province, is functional as well. Many companies are being attracted to a host of benefits provided in this state of the art technology park.

A number of projects were launched to enable exponential growth in this sector, and PSEB's goal is to increase exports of software to \$1 billion (US) by the end of 2003.

PSEB acts as a facilitator, matching requirements of foreign investors to the huge resources that Pakistan offers. The vision is to maximize the strengths and opportunities in Pakistan and introduce them to the rest of the world to make Pakistan into a market leader in the field of innovative IT services and products.

### **Major Functions of PSEB**

- To act as a “one-stop shop” to cater to all needs of a IT company for setting up or facilitating its business ventures
- To plan, develop and establish the IT parks and to provide space, international data communication links as well as uninterrupted electric power to IT companies located in these parks
- To develop and execute a marketing plan to help local software companies reach out to potential clients abroad, attract and facilitate foreign software firms to establish their software development facilities in Pakistan
- To facilitate projects between the Pakistani educational institutions and the computer industry to bridge the gap between academia and the industry.

## WEST BANK/GAZA

Data taken from:

<http://www.terrorismanswers.com/havens/palestine2.html>

<http://www.palecon.org/pulsedir/may97/private.html>

The Palestinian Authority (PA) has an operating budget of about \$1 billion a year, over half of which comes from Europe and the Arab world. But most of the approximately \$500 million per year in international aid that flows into the West Bank/Gaza territories, including \$75 million from the U.S. Agency for International Development, goes to non-PA housing, small-business incubators, educational projects, democratization programs, and other development efforts. In addition, the United Nations Relief and Works Agency, the UN agency that gives humanitarian aid to refugees, disburses about \$300 million per year to Palestinians living in refugee camps in PA-controlled sections of the West Bank and Gaza.

The following section is adapted from an article entitled, "Incubating Microenterprise: Virtual or Reality?" by Julia Hawkins in which she discusses the role of business incubation in the West Bank/Gaza.

In 1995, the idea of providing 'incubator' facilities for businesses in the West Bank/Gaza was considered by policy makers to be a key policy tool for supporting Palestinian small and micro enterprises. After a UNDP mission to the West Bank/Gaza in 1994, two pilot incubators were designed: one affiliated to An-Najah University in Nablus, and the second in Gaza. The Nablus incubator was designed to stimulate technological entrepreneurship and to commercialize the results of scientific research. The Gaza-based facility aimed to promote the development of innovative products and services, particularly in agribusiness, computer software, garments as well as in the artisan and construction areas. These pilot projects were to form a crucial part of a multi-layered strategy for the industrial sector in the geographic area, however, plans for the pilot incubators have been stalled despite donor interest in other private sector support mechanisms.

In the West Bank/Gaza area, small-scale enterprise has often been heralded as the ultimate in 'entrepreneurial spirit'. This was exemplified by the overwhelming predominance (over 90% of all enterprise) of small, owner-operated businesses in West Bank/Gaza exhibiting skill-based innovation and a real determination to achieve business success within a highly uncertain political and regulatory environment. There were and remain pockets of core competencies in industry that can promote skill-based, if not innovation-based, growth potential.

Unlike other private sector support programs, incubator facilities have a special advantage in that they can be integrated into other mechanisms and explicitly designed to tap into the human resource base of the area. By assisting businesses through their early and most critical stages, incubators are particularly relevant to the West Bank/Gaza where as many as 95% of Palestinian-owned small businesses fail in their first two years. The nature of incubator facilities and services may vary, but the traditional concept is to provide a set of quality services to selected innovative entrepreneur groups, at affordable costs. In theory, the economy also benefits from a broader tax base created by increased employment, and the targeted industries are revitalized. Inter- and intra-sectoral linkages may also be created by establishing incubators for clusters of industrial sub-sectors or through linking incubator facilities with industrial parks. When linked with university science and technology faculties, they may help to bridge the gap between the academic world and the market.

One of the key impediments to adapting this Western-styled model to the West Bank/Gaza is the nascent state of the formal banking sector along with limited access to credit and high collateral requirements. Cultural issues also play a role. For example, the traditional notion of incubation implies the rental of space for a fixed period of time. However, the inflated land prices and lenient tenancy laws of the West Bank/Gaza are incompatible with the notion of short-term leases. To rent a space to small businesses and then ask them to leave after two or three years is problematic. For example, it is said that workshops within the Anabta municipality-built industrial complex were rented but were not made operational. Instead, tenants exploited prevailing Jordanian law to enable

them to extort money from landlords to persuade them to leave. Lack of familiarity with the concept itself is also an obstacle. The success of incubators often hinges on a charismatic managerial style that can galvanize local private sector support and local entrepreneurial spirit.

One possible solution for the West Bank/Gaza may be to establish 'virtual incubators' which typically have few or no resident tenants and focus on counseling client businesses, either through a university science department, research laboratory, or on an outreach basis to small ventures. Second, given that many micro-enterprise expansion are hampered by out-dated production techniques and lack of marketing information, a West Bank/Gaza approach could de-emphasize product innovation in favor of the adoption of appropriate technologies. This could include innovation in raw materials, production systems and spare parts and could link clients to customer bases that will eventually sustain their businesses.

Appropriate models of incubator-type facilities are currently being examined by the YMCA (Young Men's Christian Association) of the USA in cooperation with YMCA of Jerusalem. Possible scenarios being developed include adding "Appropriate Technology and Business Training" (ATBT) incubators to the YMCA's existing Extension Support Unit (ESU). In fact, the ESU could already be considered as a pioneer of the virtual incubator in the West Bank/Gaza. Launched in April 1992, it aims to provide practical training for vocational graduates as a means of improving their employment prospects. The ESU has two departments: the Department of Enhancing Job Opportunities (EJO) which is concerned with providing practical, market-driven training to vocational graduates by placing them in respective shops in their areas, with periodic monitoring of progress. The second department is the Department of Small Enterprise Development (SED). The SED provides management training to shop owners and vocational graduates already working, in order to help them start their own business.

From October 1995 to March 1997, a total of 1965 graduates of vocational colleges in the West Bank and Gaza were offered practical work placements by the ESU. Of these, 828 students finished the course

and were awarded 'Certificates of Experience', jointly signed by the ESU and the workshop where the training was received. A further 629 young people subsequently found work. As for managers, as many as 1,630 workshop owners or potential workshop owners were trained. A total of 164 loans were provided to buy new machinery, ranging from \$1,000 to \$10,000.

According to Adnan Shalaldah, the director of the ESU in Ramallah, the ATBT project should complement existing services offered to vocational graduates. The project is also entirely market-driven. 'As a result of continuous interaction with workshop owners, we learned that a serious disincentive for workshop owners to invest in new machinery was not only lack of capital, but lack of knowledge about what kind of technology was being used in the market', Shalaldah says. As an additional facility to the machinery rental system, therefore, ATBT incubators address the problem of lack of information about new technology by acting as demonstration centers as well as training centers.

By starting small, therefore, and avoiding the temptations of importing traditional models lock, stock and barrel, incubator-type facilities may well begin to solve some of the problems of West Bank/Gaza micro-enterprises. The ESU unit is an excellent example. It is clear that for such business support facilities to succeed, sustained support from the international donor community is essential. Moreover, such efforts should be tempered by the notion that real development is a long-term challenge that cannot be solved by fashionable terminology alone.

## **DUBAI - PALESTINIAN PRODUCTS EXHIBITION**

Wafa Dajani, MIS Advisor of DAI (Development Alternatives Inc., implementors of USAID's Small Business Support Program) recounts how the Dubai-Palestinian Products Exhibition was an excellent learning experience for all involved. Over a week long period, producers from the West Bank/Gaza learned about how and what they could (or could not) potentially export while their counterparts from Dubai and other Arab countries learned about Palestinian capacity.

The exhibition was organized by DAI and PalTrade and offered producers from West Bank/Gaza the opportunity to explore new markets in the Gulf and examine the competitiveness of their products without incurring the huge expenses that such market testing normally entails. Funded by USAID, it represented a healthy reorientation away from reliance on the Israeli market and the traditionally targeted markets of North America and Europe. Indeed, the initiative itself arose out of previous DAI research into identifying alternative export markets. Sample Palestinian products were tested in East Africa in 1996 and met with very positive feedback albeit tainted by complaints of high prices. The Dubai exhibition served to further investigate the potential of Palestinian products in re-export markets (where a second country serves as a trade intermediary) and in the Gulf itself and to offer Palestinian producers detailed information on the intricacies of these markets. The legacy of high prices was still an issue but some sectors demonstrated a significant comparative advantage.

Seemingly, the most effective marketing tool is the West Bank/Gaza identity itself. The food processing sector, although singularly non-competitive in low value-added products such as confectionery and chocolate, received much interest in those products considered traditionally and culturally Palestinian, such as olive oil, pickled eggplants and hot sauce. Other promising sectors included the stone and marble industry, renowned in the West Bank/Gaza for its high quality polished finish and unique natural designs and colors, and the pharmaceuticals industry - capable of providing goods of international standards, not manufactured elsewhere in the Middle East. In addition, the garments and accessories sector proved to be competitive in quality despite still relatively high prices indicating that the high value-added produce of the West Bank/Gaza based industry may do better by making direct linkages with US and European fashion houses. Most observations concluded that produces from West Bank/Gaza may need to focus on niche markets rather than on mass consumption products.

The final outcomes of the exhibition comprised more than just learning experiences. DAI closing estimates of results stood at: US\$6,000,000 in sales (US\$2,000,000 by close of trade exhibition and



US\$4,000,000 in sales under negotiation) and this was without full reporting from all the 69 companies that attended. Thirty percent of the firms attending the exhibition made sales and over 90% of all firms sold all samples and/or left samples with potential distributors. Some companies even managed to finalize distributorship deals and other joint venture agreements. For all those skeptical about the logistical ability of the West Bank/Gaza to do business with the Gulf, the Arab Bank was on hand to offer reassurance that financial transactions can be executed between the two areas. Other less tangible results included efforts on the part of the Palestinian Ministry of Finance to facilitate trade deals. Dr. Atef Alawaneh, Deputy Minister of Finance, pledged that all Palestinian export produce will be exempt from income tax and that VAT will be systematically returned on export goods.

The generally successful and positive trade environment created in Dubai was not entirely immune from foreboding challenges. Concluding remarks pinpointed the potential difficulties that are likely to arise from the lack of an effective telecommunications network between the West Bank/Gaza and Gulf countries which do not have direct phone access. Many participants ended up contriving complicated arrangements with intermediaries in Jordan to ensure communication with their Gulf partners. DAI is now working on a telecommunications solution to the problem. The exhibition also served to highlight that the export business is still a relatively untried concept for West Bank/Gaza producers. Their lack of direct access and exposure to export markets in the past, as a result of occupation, has hampered their accumulation of expertise in procedures and legislation. DAI is hoping to assist in such matters and promote the streamlining of shipping arrangements. Communal shipping may also be a means of overcoming high transportation costs and encouraging inter-country cooperation between exporters.

The ongoing accumulation of feedback from both the participating companies and other organization that were involved in the experience (e.g. the Palestinian Trade Promotion Organization and the Center for Private Enterprise Development) will be recorded at DAI whereby future assessments of such initiatives can be made. Other follow-up mechanisms include DAI's Market Access Network Program which, having

established an Internet network within Palestinian Chambers of Commerce, can use computer technology, to disseminate experiences and findings at such trading events. Ultimately, the true test of the viability of marketing Palestinian products in the highly competitive free export market of Dubai, will be shown by the duration of the business deals and the partnerships created as a result.

## **ITSIG**

Ma'an Bseiso, member of the newly formed Information Technology Special Interest Group (ITSIG) and part-owner of Palnet, one of the most successful Palestinian Internet providers, describes this new initiative. Created in early 1997 ITSIG combines a potential lobbying group with a means of public/private sector communication and a source of information on the IT sector. According to Bseiso, ITSIG aims to make sure that technically, the right issues are addressed by both the government and those working within the sector.

Potentially, and if well organized, ITSIG may well be able to overcome the problems of the past, where governmental bodies were unaware of, or inexperienced in, the needs of the IT sector. By ensuring public awareness of exactly what IT is all about, it is hoped that ITSIG can contribute to strategic planning for the sector and facilitate the emergence of an appropriate legislative and regulatory framework for the development of IT services.

To date, ITSIG is an open and honest forum for those with an interest in IT. It is also working hard to ensure that, as CPED's study recommends, IT people make the most of EC-funded training programs. ITSIG recently held a workshop on the subject in an effort to explain the programs to interested parties. For ITSIG to be truly successful, however, it needs to demonstrate to other sectors that a unified technocrat voice can serve to mold the course of national policy such that it promotes, rather than prevents sectoral development.

## REPUBLIC OF GEORGIA

Data taken from:

<http://www.unece.org/trade/entdev/bi-main.htm>

### **General Information:**

Georgia is located in Southwestern Asia, bordering the Black Sea, between Turkey and Russia.

**Population:** 4,989,285 (July 2001 est.)

**Ethnic groups:** Georgian 70.1%, Armenian 8.1%, Russian 6.3%, Azeri 5.7%, Ossetian 3%, Abkhaz 1.8%, other 5%.

**Languages:** Georgian 71% (official), Russian 9%, Armenian 7%, Azeri 6%, other 7%

*note:* Abkhaz is the official language in Abkhazia

Georgia needs to develop its own strategic, economic and taxation models to support innovative business and the development of entrepreneurship in the country. Entrepreneurship must be protected from heavy taxation and excessive regulation. However, it is not in the power of an incubator, a technopark, or their managers to establish such protection, but rather the government's role to take the necessary measures. As an example, the Center for Enterprise Restructuring and Management Assistance has made a proposal to the Government on a tax-free zone with a tax moratorium for the Business Park for the first three to five years for an appropriate consultant to the Electroapaati plant.

The development of small and medium-sized enterprise sector in Georgia is one of the priorities of the Government's economic policy. The main task today is to develop support mechanisms for small and medium sized enterprises and enhance competition and free entrepreneurship in the country. Business incubation, as one tool, can provide entrepreneurs with appropriate premises, equipment and shared services.

The first step was taken in Georgia in May-June 1999, when Georgia's first business park (incubator) was established. The business park was founded by the Center for Enterprise Restructuring and Management Assistance (CERMA), a project financed by the World Bank. The goal was to create facilities matching western standard utilizing the premises of "Electroaparati", and existing plant.

In order to enable the development of small business it is necessary to create a viable environment based on various components. The aim of Georgia is to become a transport corridor between east and west, connecting the Caucasian and the Central Asian countries with the Black Sea. The integration of the country in the European structures for scientific, technological and cultural cooperation is extremely important for the country's full integration in Europe.

In Georgia there is no legal definition of a business incubator, industrial zone and science park in Georgia, but the government is determined to have one developed. Today, incubators can emerge in Georgia to meet different business needs, such as:

- industrial subcontracting, supporting the development of new business as vendors. The features include quality control and programs for production scheduling.
- individual business incubators have programs specifically tailored to the needs of particular industrial products in sectors such as biotechnology, computer software, metal work, handicrafts, ceramics, and agribusiness.
- university incubators specialize in supporting the development of businesses started by the faculty and the staff of the university, or are otherwise linked to the university.

One of the constraints in Georgia is the lack of infrastructure for the promotion of technology transfer. To this end, the development idea of the Center for Enterprise Restructuring and Management Assistance (CERMA) is to create a business park in the "Electroaparati" plant in Tbilisi.

In order to provide services for incubators, financial resources are needed. Among the sources available in Georgia the following are the most prospective:

- financing from central to local budgets.
- international technical and economic assistance.
- foreign loans.
- voluntary contributions
- foreign investments.

Georgia's legislative framework is based on internationally adopted principles and norms. The most important market economy oriented documents are the Civil Code, the Tax Code, and the law of Entrepreneurship as well as the law on the Promotion and Guarantees of Investment Activities, and the law of Small Business Protection, which define the basic norms.

## SAUDI ARABIA

Data taken from:

<http://www.cia.gov/cia/publications/factbook/>

<http://www.kfupm.edu.sa/ri/cems/cemshom.html>

<http://www.kfupm.edu.sa/ri/cems/Business-Incu.html>

### General Information:

Saudi Arabia is located in the Middle East, bordering the Persian Gulf and the Red Sea, north of Yemen. In 1902 Abdul al-Aziz Ibn Saud captured Riyadh and set out on a 30-year campaign to unify the Arabian Peninsula. In the 1930s, the discovery of oil transformed the country. Following Iraq's invasion of Kuwait in 1990, Saudi Arabia accepted the Kuwaiti royal family and 400,000 refugees while allowing Western and Arab troops to deploy on its soil for the liberation of Kuwait the following year. A burgeoning population, aquifer depletion, and an economy largely dependent on petroleum output and prices are all major governmental concerns.

**Population:** 22,757,092 (includes 5,360,526 non-nationals)  
(July 2001 est.)

**Ethnic groups:** Arab 90%, Afro-Asian 10%

**Language:** Arabic

The Center for Economics and Management Systems of the King Fahd University of Petroleum and Minerals works to enhance economic, management and industrial development in Saudi Arabia and other Gulf countries by providing modern managerial and economic skills. It does so with the help of research economists/scientists and systems engineers who excel in the field of management, economics, statistics and information systems. The Center for Economics and Management Systems consists of three sections:

- Business Incubators Section
- Economic Studies Section
- Management and Quality Control Section

## Business Incubators

Quality Management, Macro- and Microeconomics, Energy Economics, Small Business Development, Industrial Management Systems, Human Resource Development, and Productivity Improvement, as well as Total Quality Management and Reengineering are the main research areas of the Center.

The objectives of these programs are to improve and standardize the efficiency and productivity of the industrial and business sectors, and to enhance human resources. Typically, the research approach is to conduct a review and analysis of the existing practices in an operating organization and, based upon the analysis, to make conclusions and recommendations for improvements that will increase efficiency and productivity.

The applied research objectives of the Center are directed toward extending and enhancing economic, industrial, and social development in Saudi Arabia and other GCC countries. Within this context several applied research projects and studies have been implemented and provided various technical consultations to the private sector's institutions and the governmental agencies.

Among the various projects, are two annual publications: the "Petroleum, Minerals and Petrochemicals Statistical Handbook," and "GCC Main Economic Indicators." In addition, the "Petrochemicals Industries Data Book" is published. The academic attainments and professional specialties of the staff are oriented toward administration, industrial management, industrial relations, industrial techno-economic feasibility studies, small business development, business incubators, energy economics, economic development and planning, statistics, and information science.

Studies concerning industrial management complement the Kingdom's current development plan, which establishes industrial development as a top priority. Some of the management problems faced by industry are unique to Saudi Arabia while some are common to other

countries. Proper management of imported and local technologies and human resources is a prerequisite for sustained development. The center is also concerned about technology transfer and adaptation of newly developed technological issues of vital importance to the Kingdom of Saudi Arabia.

The Center comprises highly qualified and experienced research engineers and scientists who are capable of undertaking execution of applied research projects and programs and providing technical consultations in various areas related to the Center's main field of activities.

In addition, the Center has access to many databases. It also has its highly developed approach in utilizing the valuable experience accumulated throughout the years at the Research Institute. The Center had always made use of the highly appreciated knowledge and capabilities of faculty members at King Fahd University of Petroleum and Minerals as well as elsewhere in Saudi Arabia and abroad to assure high quality research outcome of the tasks it undertakes.



## TAJIKISTAN

Data taken from:

<http://www.usaid.gov/country/ee/tj/119-0131.html>

USAID MISSION: Tajikistan

PROGRAM TITLE: Small and Medium Sized Enterprises

(Pillar: Economic Growth, Agriculture, and Trade)

STRATEGIC OBJECTIVE AND NUMBER: An Improved  
Environment for the Growth of Small and Medium Enterprises;  
119-0131

STATUS: Continuing

PLANNED FY 2002 OBLIGATION AND FUNDING SOURCE:

\$2,700,000 FSA PRIOR YEAR UNOBLIGATED AND FUNDING  
SOURCE: \$30,131 FSA

PROPOSED FY 2003 OBLIGATION AND FUNDING SOURCE:

\$3,300,000 FSA INITIAL OBLIGATION: FY 2000

ESTIMATED COMPLETION DATE: FY 2005

**Summary:** USAID's program to improve the environment for Tajikistan's small and medium sized enterprises (SMEs) has three major components: training entrepreneurs in modern business skills, specialized business advisory services, and making business and marketing information more available; providing more access to capital by building lender knowledge, strengthening banks, and creating more liquidity through new financial instruments and micro-credit; and, advocating for and training in more transparent, systematic implementation of laws and regulations that improve the environment for SMEs.

Inputs, Outputs, and Activities: FY 2002 Program: USAID will continue to support programs that spur economic recovery, expand economic opportunity and support local entrepreneurs in Tajikistan.

USAID will continue to work with the government institutions, particularly the courts and Parliament, to establish the legal and regulatory framework needed to support a market economy. USAID will provide training in basic business practices, economic principles and managerial

skills to entrepreneurs and government officials. USAID will also continue to improve university- and graduate-level economics and business curricula and to implement a micro-credit activity in the Ferghana Valley.

Planned FY 2003 Program: USAID will slowly expand a targeted SME program that will help to alleviate poverty through expanded business opportunities. USAID will continue to provide resource materials, training, and research opportunities to universities and SMEs through the Resource Network for Economics and Business Education (RNEBE). Approximately six to nine students from Tajikistan will receive scholarships to attend KIMEP (Kazakhstan Institute for Management and Economic Research). Basic business courses and professional consultation services will be available to citizens involved in private enterprise. USAID will also begin to cultivate business associations and advocacy groups, and will continue to build the accounting profession. USAID-supported satellite offices in the region will implement and expand a regional trade promotion initiative that includes an internet-based regional trade network.

USAID will implement and expand micro-credit activity in the Ferghana Valley. USAID will also continue its collaboration with the U.S. Department of Agriculture to implement a separate micro-credit activity in Khojand. With new credit prospects, entrepreneurs can expand their businesses, provide employment opportunities, and improve the quality of life in Ferghana.

USAID advisors also will continue to foster the development of a predictable, stable, and transparent commercial law system. USAID will continue to support training workshops for Tajik judges and attorneys conducted by other USAID-trained judges on the interpretation and application of commercial legislation. USAID will continue to work with the Tajik Council of Justice on the judicial qualification and attestation process, by monitoring and assisting in the administration of exams to prospective and sitting judges. Collaborating with the Asian Development Bank (ADB), USAID will maintain and expand a computer database of Tajik laws, and through it will work with the Tajik court system to establish modern methods of judicial administration and case management. Cooperation with legislative drafters will develop the framework necessary for

commercial legislation. USAID will also assist the Government of Tajikistan's efforts to modernize and maintain its payment registration system. In response to requests for assistance, USAID will help Tajikistan apply for membership in and accession to the World Trade Organization.

**Performance and Results:** Despite the government's willingness to reform its economy, political, and social instability remained a serious obstacle to the successful implementation of USAID-supported reforms in Tajikistan. Despite such obstacles, USAID continued to increase access to modern business information and skills in FY 2001. Seven hundred thirty-five Tajik entrepreneurs were trained in western business methods; and USAID training helped 622 (49% women) bookkeepers become professional accountants, practitioners, and technicians. Similarly, RNEBE watched network membership grow to 14 universities in less than a year, and supported two Visiting International Professors (VIPs). These VIPs helped develop their respective departments and delivered training and seminars to students and faculty in modern business principles and market economics. Continued participation by these universities in the network will result in marked improvements in the economics and business curricula.

Tajikistan's leading accounting association qualified for membership in the International Council of Certified Accountants and Auditors (ICCAA). With members throughout Central Asia, Russia and Ukraine, ICCAA is establishing an internationally recognized education, examination, and certification program in the Russian language.

During FY 2001, USAID worked with the Tajik judiciary to create a more transparent and orderly justice system. Advisors created a legal database of Tajik laws and normative acts that is the most comprehensive collection in Tajikistan. USAID advisors also assisted in the preparation of draft language for Intellectual Property Rights in the Tajik Civil Code. In FY 2001, USAID played a key role in developing and implementing a successful examination process for prospective and sitting Tajik judges and trained a core group of Tajik judges to establish an institutional judicial training mechanism. A court computerization program was launched at the City Court of Dushanbe, and training was provided to Dushanbe City

Court and Council of Justice personnel which enables them to effectively use the legal database and computer equipment.

Through the Eurasia Foundation, USAID granted \$168,000 to student and entrepreneurial activities, which allowed entrepreneurs to expand their businesses, have greater access to modern business information and tools, and open a business center.

USAID expects that entrepreneurs who are being introduced to a wide array of modern business methods and practices will provide the basis for economic recovery in Tajikistan. Business incubators and introduction of land, civil and business law to farmers will expand entrepreneurial opportunities, as well.

Principal Contractors, Grantees, or Agencies: Carana Corporation, Pragma Corporation, Citizens Democracy Corps/MBA Enterprise Corps, ARD/Checchi, ACDI/VOCA, Eurasia Foundation.

## TURKEY

Data taken from:

<http://www.kosgeb.gov.tr/organs.htm#15>

<http://www.gge.kosgeb.gov.tr/eng.html>

<http://www.cia.gov/cia/publications/factbook/>

### General Information:

Located in southeastern Europe and southwestern Asia (that portion of Turkey west of the Bosphorus is geographically part of Europe), bordering the Black Sea, between Bulgaria and Georgia, and bordering the Aegean Sea and the Mediterranean Sea, between Greece and Syria.

**Population:** 66,493,970 (July 2001 est.)

**Ethnic groups:** Turkish 80%, Kurdish 20%

**Languages:** Turkish (official), Kurdish, Arabic, Armenian, Greek.

### Entrepreneurship Development Institute of KOSGEB

#### Mission Statement

The mission of the Institute is to encourage the creation of new and successful small businesses in order to strengthen the Nation's economy and to contribute to the welfare of the Nation.

#### Objectives

To accomplish this mission the Institute has adopted the following objectives:

- Identify barriers to entrepreneurial development in Turkey, develop policies for removing these barriers and providing a conducive environment for entrepreneurs, draw the attention of policy makers to these problems

- Set up a network to facilitate co-operation and co-ordination between entrepreneurs and related individuals/institutions
- Design and implement an array of support mechanisms for entrepreneurs including training, consulting, financial support and business incubators
- Promote the activities of the Institute and create public awareness

The institute aims to provide extensive services for a wide range of the target group by employing a small number of qualified personnel in compliance with the restructuring efforts of the government. During the delivery of services, due regard will be given to global developments, market balances and competition.

The institute will coordinate with foundations, trade associations, and non-profit and community based organizations (resource partners) to encourage public-private partnership and to mobilize local initiatives.

Services will be provided on a cost sharing basis where the share of the Institute will be kept generally at 50% which is subject to modification depending on local conditions and priorities.

### Target Group

The services will be made available for potential entrepreneurs who want to set up their own businesses and those who are in the initial stage of their business life. This population may have the following profile:

- Entrepreneurs who want to set up a business in the manufacturing sector
- Craftsmen who wish to grow into the industrial sector
- University students
- Women
- Displaced workers after privatization
- Workers returned from the Netherlands, Germany and other countries

The following criteria will be adopted to evaluate eligibility for services:

- Value added and employment creation capacity of the business
- Presentation of an innovative and sustainable business idea
- Local requirements

### Performance Measures

The Institute will measure its performance on such outputs as the number of successful new businesses and new jobs created, cost of job creation, increase in the number of resource partners and contribution made to local economic development.

### **Technology Development Centers Of KOSGEB**

Technology Development Centers have been established on university campuses to help people trained in scientific and technological fields become entrepreneurs. They are designed to assist in establishing new technology-based enterprises, support similar steps taken by existing SMLs, commercialize R&D efforts, develop and diversify regional economic activities and strengthen university-industry cooperation. They operate as business incubators in support of technology-oriented economic development.

Using strong support mechanisms, these centers aim to create new technology-oriented enterprises and to establish suitable infrastructure for enabling these enterprises to develop their volumes and perspectives with the support of managerial, technical and administrative consultancy mechanisms. The basic philosophy is to open up to the market those firms which are mature enough to survive in market conditions and to admit new technology-based firms in their stead.

Ankara Technology Development Centre

O.D.T.Ü. Kampüsü 06531

ANKARA

Tel: 90 (312) 210 13 00 (6 Line)

Fax: 90 (312) 210 13 09

E-mail: Knet kosgeb@tekmer.gov.tr

Ankara Technology Development Center (AU)

A.Ü.Ziraat Fakültesi Gıda Müh. Bölümü 4 No.lu Blok 06110 Kalaba

ANKARA

Tel: 90 (312) 360 45 06

Fax: 90 (312) 360 59 35

E-mail: Aukosgeb@ada.net.tr

B.Ü.KOSGEB Technology Development Centre (B.Ü)

Bogaziçi Üniversitesi Kuzey Kampüsü B Kapısı Bebek Yolu Sk. Hisarüstü

ISTANBUL

Tel: 90 (212) 287 45 86-92

Fax: 90 (212) 287 45 93

E-mail: Kosgeb2@itu.edu.tr

Trabzon Technology Development Centre (K.T.Ü.)

Karadeniz Teknik Üniversitesi Mimarlık Bölümü Binası Zemin Kat

TRABZON

Tel: 90 (462) 325 94 20-21

Fax: 90 (462) 325 94 19

E-mail: Tekmer@Ada.com.tr

Istanbul Technology Development Centre

KOSGEB Binası I.T.Ü. Ayazaga Kampüsü 80626 Maslak

ISTANBUL

Tel: 90 (212) 285 05 00 (6 Line)

Fax: 90 (212) 285 68 09

E-mail: Kosgeb2@itu.edu.tr



Istanbul Y.T.Ü-KOSGEB Technology Development Centre

YTÜ Kampüsü 80750 Yıldız Besiktas

ISTANBUL

Tel: 90 (212) 236 43 31-32 and 236 38 83

Fax: 90 (212) 236 43 30 E-mail: kosgeb.tekmer@yildiz.edu.tr

<http://www.yildiz.edu.tr/~kosgeb/index.html>

## TURKMENISTAN

Data taken from:

<http://www.usaid.gov/country/ee/tm/>

<http://www.icctm.org/Smeda/About.html>

### General Information:

Turkmenistan is located in Central Asia, bordering the Caspian Sea, between Iran and Kazakhstan. Annexed by Russia between 1865 and 1885, Turkmenistan became a Soviet republic in 1925. It achieved its independence upon the dissolution of the USSR in 1991. President Niyazov retains absolute control over the country, and opposition is not tolerated. Extensive hydrocarbon/natural gas reserves could prove a boon to this underdeveloped country if extraction and delivery projects can be established.

**Population:** 4,603,244 (July 2001 est.)

**Ethnic groups:** Turkmen 77%, Uzbek 9.2%, Russian 6.7%, Kazakh 2%, other 5.1% (1995)

**Languages:** Turkmen 72%, Russian 12%, Uzbek 9%, other 7%

### Business Development in Turkmenistan

SMEDA's mission focuses on supporting the development of private entrepreneurship in Turkmenistan, enhancing the social image of the entrepreneur and fostering interest (and operations) of foreign investors and entrepreneurs in Turkmenistan, facilitation of business links with local enterprises.

SMEDA has gathered a rich experience in business consulting and business information as well as training in Turkmenistan and offers you its broad range of services based on the competency of its Team of consultants, large and updated data bases and finally on access to international technical assistance.

SMEDA is a member of the International Chamber of Commerce (ICC with Headquarters in Paris) since August 1998, and it holds a License for Training Activities delivered by the Ministry of Education of Turkmenistan (series AB # 0229).

## **The Business Development Challenge**

Of all the Central Asian Republics (CARs), Turkmenistan is the slowest to reform. The U.S. has a strong interest in the development of Turkmenistan's energy potential, but its continued self-isolationism limits US involvement and opportunities in this regard. Turkmenistan has the longest border with Afghanistan, and its supportive role in supplying humanitarian relief for Afghanistan has been essential: it facilitated over 30% of the food aid for Afghanistan. Notwithstanding this cooperation, there appears little change in a regime characterized by patronage and corruption, a highly restrictive visa regime, suspicion of civic action and the media, and state-control over and distortion of the economy, as well as unsustainable water use.

Freedom House has consistently rated Turkmenistan as “not free”, with the lowest ranking of political rights and civil liberties possible on the Freedom House scale. A weak judiciary follows the will of the President for Life and is unprepared to protect civil and commercial rights. Civic action is still very risky, though a handful of non-governmental organizations (NGOs), such as water user associations, has taken up issues at the local level to some effect.

There is almost no competitive business sector in Turkmenistan, and over-regulation continues to stifle any potential for growth in this sector. Due to the lack of transparency and an unwillingness to share information, precise numbers on Turkmenistan's per capita GDP and debt are not available, although the International Monetary Fund (IMF) estimates that the GDP per capita income is \$652.

Due to the government's willingness, health reform shows some promise, although the situation is bad: the infant mortality rate in Turkmenistan is now the second highest in Central Asia, just behind

Tajikistan, with 74 deaths per every 1,000 live births. According to the results of the 2000 Turkmenistan Demographic and Health Survey, 47% of women and 36% of children are anemic. This past year when Turkmenistan's neighbors sought relief for a drought in the region for several years, Turkmenistan's leadership would not publicly acknowledge or discuss the shortage of water. Agriculture consists of forced cotton and wheat production, state profiteering and wasteful water use. Despite these problems, USAID remains welcomed by the leadership and has had modest successes with local-level efforts in health, energy and training.

## **The USAID Program**

To meet these challenges, the goal of USAID in Turkmenistan is to expand opportunities for citizens to participate, to increase their livelihoods and to improve their quality of life. The Program Data Sheets provided below cover the four objectives for which USAID is requesting funds for Turkmenistan: primary health care; water and energy management; democratic culture; and small enterprise; with cross-cutting objectives in conflict mitigation; youth and education; gender; anti-corruption; and rule of law. FY 2002 funds will be used to implement the program as planned and described in the FY 2002 Congressional Budget Justification. The specific activities to be funded by FY 2002 and FY 2003 appropriations are described in more detail in the following Program Data Sheets. USAID will use \$300,000 of the FY 2003 request to fund a new community development program (CAIP), while the remaining \$3.7 million will fund ongoing efforts.

USAID is providing increased opportunities to access modern business and economic information. USAID's Enterprise Development Center in Ashgabat is helping prepare the next generation of entrepreneurs by offering basic business education courses, including modern principles of accounting, marketing, and strategic business planning. In partnership with a Central Asian regional accounting federation, USAID is supporting a training, examination and certification program that complies with international standards of accounting and audit. USAID's Resource Network for Economics and Business Education (EdNet) is offering college students greater access to information and opportunities to

succeed in the free market by training professors in economics and business education, as well as making available teaching materials, and providing research opportunities and scholarships.

## **Other Program Elements**

Partnerships, training and exchanges remain an important component of U.S. assistance. Through its Global Training for Development Program, USAID trained about 1,000 Turkmen citizens in all areas including economic and business education, NGO-sector development and primary health care in FY 2001. This program also exposed key water/irrigation and education personnel to neighboring countries' approaches to solving issues of mutual interest. USAID/CAR takes advantage of several centrally managed programs, including the inter-agency agreement with the Centers for Disease Control and a regional mechanism for reproductive health. The Office of Foreign Disaster Assistance has had a presence in Turkmenistan since October 2001. The Farmer-to-Farmer program, also active in Turkmenistan, is financed through P.L. 480 and managed by USAID's Bureau for Humanitarian Response. Eurasia Foundation grant-making has generally not been successful. The Departments of State and Defense also manage programs complementary to USAID's field activities.

## **Other Donors**

World Bank lending has been restricted due to an unresolved negative pledge. The European Union - Technical Assistance to the Commonwealth of Independent States (EU-TACIS) continues to support improved agricultural production and processing, energy, and private sector development. The United Nations Children's Fund assists with maternal and child health care. The United Nations Development Program supports economic reform and management, the health and education sectors, and environmental protection. Other donors include the United Kingdom Department for International Development, the Organization for Security and Cooperation in Europe, and the United Nations High Commissioner for Refugees. The Canadian International Development Agency

and the World Bank's Global Environmental facility continue to support natural resource management through their regional programs. The Asian Development Bank is in the process of approving a country strategy. The European Bank for Reconstruction (EBRD) has suspended future loans but continues to service its existing portfolio. The International Finance Corporation closed its office in November.

## UNITED ARAB EMIRATES

Data taken from:

<http://www.cia.gov/cia/publications/factbook/>

<http://www.uaeoffsets.com/aboutuae.htm>

<http://www.yelwan.com/internetcity.asp>

<http://www.gitex.com/visitors/dubai.html>

### General Information:

Located in the Middle East, bordering the Gulf of Oman and the Persian Gulf, between Oman and Saudi Arabia. The Trucial States of the Persian Gulf coast granted the UK control of their defense and foreign affairs in 19th century treaties. In 1971, six of these states - Abu Zaby, 'Ajman, Al Fujayrah, Ash Shariqah, Dubayy, and Umm al Qaywayn - merged to form the UAE. They were joined in 1972 by Ra's al Khaymah. The UAE's per capita GDP is not far below those of the leading West European nations. Its generosity with oil revenues and its moderate foreign policy stance have allowed it to play a vital role in the affairs of the region.

**Population:** 2,407,460 (includes 1,576,472 non-nationals) (July 2001 est.)

**Ethnic groups:** Emirati 19%, other Arab and Iranian 23%, South Asian 50%, other expatriates (includes Westerners and East Asians) 8% (1982). Less than 20% are UAE citizens (1982)

**Languages:** Arabic (official), Persian, English, Hindi, Urdu

### Origins:

The Bani Yas tribe have been in the southern half of the Arabian Peninsula since 2000 bc. . Soon after embracing Islam around AD 672, the Bani Yas migrated from Najd, the central province of Saudi Arabia, to the Liwa Oasis. In 1761 a hunting party from the Bani Yas came across an island with grazing gazelles and a spring of fresh water which they named Abu Dhabi, "dhabi" being Arabic for gazelle. In 1793, the then ruler of the tribe, Sheikh Shakhbut moved his base to Abu Dhabi from where he and his sons ruled until 1845.

The period witnessed the conclusion of a series of treaties with the British on the maintenance of maritime peace in the region that led to the area becoming known as the Trucial States. In 1855 Zayed bin Khalifa became the ruler and developed Abu Dhabi into the most powerful emirate in the lower Gulf. He and his sons ruled Abu Dhabi until 1922 when the succession passed to Sultan bin Zayed, Sheikh Zayed's father. Abu Dhabi's population was estimated at 15,000 at the time.

## **The Economy**

Abu Dhabi's economy was based on the pearling industry. The economy enjoyed a boom until the 1930's fueled by demand from the USA, Latin America, India and elsewhere, which generated revenues of between GBP 15,000 and GBP 25,000 a year. This income declined following the introduction of cultured pearls by Japan, which destroyed much of the economy of the emirate.

Following the end of the Second World War, foreign oil companies began their search for oil under concessions granted to them. In 1958 the first commercial oil field was discovered at Umm Shaif in the off-shore waters of the emirate. The following year the on-shore oil field at Murban was discovered and the first export of oil took place in 1962. Oil revenues began to flow at a steadily increasing rate leading to demand for the use of that money to develop the emirates, a process which began in earnest on the accession of Sheikh Zayed bin Sultan Al Nahyan as the ruler Abu Dhabi in 1966.

The withdrawal of the United Kingdom from the Gulf region in 1971 brought the Trucial States together with the seven emirates of Abu Dhabi, Dubai, Sharjah, Ajman, Umm Al-Qaiwan, Fujairah and Ras-Al-Khaimah uniting in a federal structure. The UAE is now governed by a combination of Federal Ministries and Emirati Departments. Federal Ministries are strongest in the areas of health and education which service the rapidly rising population of UAE nationals, as well as the large expatriate community.



## **Economy**

The UAE has the second largest economy in the GCC and has the highest per capita income in the GCC; the fourth highest in the world. Sheikh Zayed Bin Sultan Al Nahyan, the President of the UAE Federation since its inception in 1971, has encouraged private sector development and diversification to reduce the vulnerability of the economy to external factors, particularly world oil price fluctuations. His Highness' leadership has created political stability and an exceptionally open economy.

Close to raw materials and centrally located at the historical cross-roads of the world, the UAE offers an excellent hub for distribution and communications to some of the fastest growing markets in the world. Within a radius of one thousand miles, there are over two billion potential consumers.

## **Growth**

The UAE has experienced seven straight years of economic growth with very modest inflation. With virtually no unemployment and registering over ten straight years of positive trade balance, the UAE economy has out performed nearly every economy in the world. Holding more oil reserves than all of North America and Western Europe combined, the UAE has the resources to fulfill its commitment to expanding its economy.

## **UAE's Competitive Advantages**

The Government's policy of economic diversification is backed up with a political commitment to providing an attractive environment in which both nationals and foreign workers can live and work. While the economy has been traditionally based on oil and gas, the government has successfully broadened the industrial base and boosted private sector activity.

With its rich natural resources, combined with the commitment to attracting investments of both expertise and capital, the UAE business environment offers many competitive advantages.

## **Infrastructure and Fixed Investment**

The UAE's key to success has been its dedication in using its oil revenues to create one of the most modern and well-developed infrastructures in the world. In 1995 the UAE invested 26% of its GDP in fixed investment, a truly staggering statistic. Over the past five years the UAE has doubled its gross fixed capital formation. This fixed investment has dramatically improved nearly every aspect of the UAE infrastructure making it more efficient to conduct business.

## **Free Market Economy**

The UAE's historical dependence on trade has resulted in extremely liberal trade policies. There are few restrictions on imports and no foreign exchange controls. Standard import duties are at a rate of 4 percent. Investors in the UAE economy are free from most capital controls. The currency of the UAE is linked to the US dollar and there are almost no restrictions on the remittance of dividends, profits, interest, royalties or on the repatriation of capital. Currently the government is pursuing a number of major privatization initiatives.

## **No Income Taxes**

Most businesses operating in the UAE are not required to pay tax nor is there any personal taxation.

## **Political Stability**

The UAE enjoys a history of political stability along with friendly borders with GCC partners. The UAE is a leader in encouraging international friendships and is also a leader in per capita foreign aid expenditures. The UAE is a member of WTO and GATT. Internally, the UAE is known for having one of the lowest crime rates in the world.

## **Funding Sources**

The UAE has many entrepreneurs seeking investments as well as aggressive merchant banking organizations that can either invest or assist in accessing the UAE's emerging capital market. There are over fifty separate banking institutions represented by almost every major financial institution in the world.

## **Well Educated Indigenous Work Force**

The UAE has dedicated large investments into its most important resource, its people. The federal government spends 17% of its budget on education and the student to teacher ratio is 12:1 with overall literacy rising from 43% in 1975 to 83% in 1995. Emirates University in Al Ain planned to have over 16,000 students by year 2000 and the Higher Colleges of Technology, encompassing 12 technical colleges, won the UNESCO award for outstanding institution in the Arab region. More than 25% of UAE college students are educated in North America and Europe.

## **Flexible Labor Resources**

While the UAE offers one of the most well educated local workforces in the world it also has liberal laws for expatriate workers for positions that the local human resources market cannot fill. These laws combined with the following favorable living conditions make the UAE the prime location for regional corporate centers:

- Efficient, clean and safe modern urban centers.
- International schools for nearly every nationality.
- Rich local culture easily mixing with a potpourri of foreign cultures.
- Fair laws that respect personal rights but increase personal safety.
- Multitude of five star hotels offering recreation and world class dining.
- International sporting and cultural events.

- Outdoor activities such as fishing, four-wheeling, swimming, zoos and amusement parks.
- Award winning architecture and beautiful greenery.

Strategically located at the crossroads of Asia, Europe and Africa, Dubai is at the center of a one billion-strong market and is firmly established as the business, financial and commercial hub of the region - a market of more than one billion people whose annual imports exceed \$100 billion.

The Dubai Government's commitment to maximizing the city's IT potential is significant. With government support and encouragement numerous e-initiatives and innovative projects, including Dubai Internet City and Dubai Media City, have put the city firmly at the forefront of the e-revolution.

### **Dubai Internet City:**

Dubai Internet City is the first complete IT and telecommunications center in the world to have been built inside a free trade zone. The \$200m site is designed to lure international information technology companies attracted by tax-free trading.

The brainchild of the Crown Prince of Dubai, His Highness Sheikh Mohammed bin Rashid Al Maktoum, Dubai Internet City was conceived and constructed within one year, officially opening in October 2000 at a site to the west of the city, adjacent to the new Dubai Marina development.

It allows 100% foreign ownership of companies, and laws relating to partnerships with local sponsors have been relaxed. Sales, company earnings and private income are exempt from any form of taxation. Companies can also take land on a renewable lease of up to 50 years and build their own offices.

Dubai Internet City offers modern, ready-to-operate, fully serviced office space catering to the specific needs of today's new economy companies. These offices offer cutting edge technology and provide both wired and wireless networks.

Over 200 companies have so far taken offices on the DIC campus, taking the current premises to capacity. IBM, Microsoft, Oracle, MasterCard International, Compaq, and DLJ Direct-e Union are just some of the global corporate taking space.

Other companies include Arabia Online, Expatsite, Arrowpoint Communications International, Tech Access, Diwan Software, Computer Associates Middle East, Symbol Technologies, e-serve, Entity, aspgulf.com, Bangalore Labs, eGulf Systems Limited, Altitude Software and Ras Infotech Limited, Cache Flow, and Emirates Bank International.

Much of the interest in Dubai Internet City has been generated by the explosion of Information Technology and Internet use in the region that DIC is set to serve. Burcin Uzunhasan of US chip-making giant Intel says that by the end of this year the estimated number of Internet users in the Middle East and North Africa region will exceed two million. "That is a 61 per cent growth rate from 1999".

The physical location of the Internet City is on Sheikh Zayed Road, next to the American University. This area overlooks the Emirates hills golf course development. The City will open for business in late 2000; highlights are said to include:

- World class technical infrastructure: high bandwidth, low cost telecom infrastructure and secure, high speed support infrastructure;
- State-of-the-art urban infrastructure: cost competitive, flexible office space and world class housing, medical and education facilities;
- Access to talent pool: large pool of high skill, low cost knowledge workers;
- Straight-forward laws and regulations: easy and fast company registration laws, hassle-free immigration process and straight forward legal procedures;
- Supportive environment: Government backed e-business initiatives, business incubators, venture capital funds and e-education programs;

- Gateway to markets: access to regional markets in Middle East, North Africa, Indian Subcontinent and CIS.

### **Emirates Intellectual Embryo**

This Dubai Internet City (“DIC”)-based venture capital fund, is seeking to fund new technology start-ups. Intellectual Embryo is a technology, media and telecommunications (TMT) business accelerator and venture capital fund giving embryonic stage companies global reach and presence.

Arif Khan, CEO of Emirates Intellectual Embryo, said the company aims to be the leading emerging market technology, media and telecommunications Investment House. Intellectual Embryo wants to be a long-term player in the Middle East and with headquarters in DIC. The Company has four areas of business, namely:

- Venture capital and business incubation - branded as Emirates Intellectual Embryo
- Sales & Marketing of incubated technologies- branded as Intellectual Embryo Solutions
- Traditional Corporate finance advisory services – branded as Intellectual Embryo Advisors
- TMT Recruitment – branded as Intellectual Embryo Recruitment

For the VC program, the target sectors are IT, media and telecommunication firms from India, the Middle East, North Africa, Southern Europe, Far East and South Africa. “So far we have identified 5 companies for investment, with a committed total investment of \$3.5million”.

## UZBEKISTAN

Data taken from:

<http://www.cia.gov/cia/publications/factbook/index.html>

<http://www.techpark.ir/parks/English/Articles/Lalkaka3.htm>

<http://www.rbec-surf.sk/Database/index.cfm?page=document&DocumentID=30>

<http://fursat.freenet.uz/en/tbi.htm>

[http://www.eurasia.org/offices/cenasia/tashkent\\_new\\_grants.html](http://www.eurasia.org/offices/cenasia/tashkent_new_grants.html)

<http://www.unece.org/trade/entdev/bi-main.htm>

### General Information:

Uzbekistan is located in Central Asia, north of Afghanistan. Russia conquered Uzbekistan in the late 19th century. Stiff resistance to the Red Army after World War I was eventually suppressed and a socialist republic set up in 1925. During the Soviet era, intensive production of “white gold” (cotton) and grain led to overuse of agri- chemicals and the depletion of water supplies, which have poisoned the land and left the Aral Sea and certain rivers half dry. Independent since 1991, the country seeks to gradually lessen its dependence on agriculture while developing its mineral and petroleum reserves. Current concerns include insurgency by Islamic militants based in Tajikistan and Afghanistan, a non-convertible currency, and the curtailment of human rights and democratization.

**Population:** 25,155,064 (July 2001 est.)

**Ethnic groups:** Uzbek 80%, Russian 5.5%, Tajik 5%, Kazakh 3%, Karakalpak 2.5%, Tatar 1.5%, other 2.5% (1996 est.)

**Languages:** Uzbek 74.3%, Russian 14.2%, Tajik 4.4%, other 7.1%

As the government of Uzbekistan forces the pace of transforming its 70-year command system to a market economy, the business incubator program is helping to overcome the hindrances encountered by start-up self-owned businesses, including problems of cumbersome registration, high taxes, inadequate banking, materials procurement, and accessing credit and business support. With political support at the highest level

and initial UN assistance, three pilot incubators were started at Tashkent and Samarkand in mid-1995.

The total investment and operating cost of the three pilots over the last three years is estimated at about US\$1 million, excluding the provision of vacant building spaces. This has resulted in the creation of over two hundred new jobs, that is, under \$5,000 per job, a number which declining as these incubators reach maturity. Now the Republic Business Incubator Network has been expanded to 23 incubators. The program is being used effectively to create private businesses and to leverage small enterprise friendly policies.

As a result of works jointly implemented by the Committee for State Property of the Republic of Uzbekistan and UNDP/UNIDO on the program for the creation and development of business incubators network (started with the creation of three pilot business incubators in August 1994, and continued in April 1996, in order to create regional business incubators network), a network of 23 business incubators has been established in the Republic of Uzbekistan, where more than 200 small tenant-enterprises are operating and above 3,000 employment opportunities have been provided. Proceeding from the results achieved, the Committee for State Property of the Republic of Uzbekistan and UNDP have taken a decision to implement a program on further development of the network in order to strengthen existing business incubators and technoparks, and to develop collaboration with similar foreign institutions for small and medium size businesses support. This program will benefit from the experience gained on the incubator development and management, as well as from institutional frameworks now available in Uzbekistan for small and medium size entrepreneurship development.

Development of small and private entrepreneurship is considered to be of great importance in the state economic policy of Uzbekistan. In fact, the necessity to develop flexible small industrial structures and institutions of a service sphere capable to adequately respond to the market changes, has become the most important aspect of success because of strong competition in the constantly changing world of today. In Uzbekistan, this necessity is still more actual as the Republic moves



forward from central planning economy, where large, slowly changing formations played dominating role, to dynamic market economy consisting of various small and flexible enterprises which are now regarded as a key component in generating individual prosperity and employment.

USAID is establishing local legally registered and operating micro-finance institutions in Uzbekistan that will provide group micro-loans that help entrepreneurs and farmers gain greater opportunities to grow their businesses and improve their quality of life. New sources of capital will improve the environment for SME growth, while providing entrepreneurs with greater opportunities to grow their businesses and improve their quality of life. USAID provides business training to assist entrepreneurs, including agribusinesses, with planning, accounting, marketing and other aspects of successful business development. As part of USAID's Cooperation Agreement with MASHAV, Agriculture Consulting Centers deliver a wide range of technical assistance and consulting services devoted to developing agribusiness. A pilot project using tree plantings for the purpose of biological subsoil drainage and the creation of a commercial lumber industry. Demonstrations will address the problem of soil productivity loss due to the dual problems of waterlogging and soil salinity in Uzbekistan's Ferghana Valley.

USAID is providing increased opportunities to access business and economic information. Through Enterprise Development Centers (EDC) in Tashkent and Ferghana City, USAID's SME Development project is delivering a comprehensive package of information, technical assistance, and business training and advisory services to entrepreneurs and business managers. Work with accounting reform, advocacy groups, and professional associations continues to improve the SME environment by promoting greater transparency and accountability. In partnership with a Central Asian regional accounting federation, USAID is supporting a training, examination and certification program that complies with international standards of accounting and audit. A new Regional Trade Promotion activity is facilitating regional trade through an internet-based regional trade network. The USAID-supported Small Enterprise Assistance Fund is providing equity, term-debt, and lease financing that gives entrepreneurs access to investment capital to operate and expand their businesses.

Finally, USAID's Resource Network for Economics and Business Education (EdNet) is offering college students greater access to information and opportunities to succeed in the free market by training professors in economics and business education, as well as making available teaching materials, and providing research opportunities and scholarships.

A number of initiatives aimed to promote small and medium size private entrepreneurship have been created and stimulated by the government of the Republic of Uzbekistan. A complete system of SME support has been created, including a network of SME support institutions, tax reforms, improvement of the banking system, foreign investment promotion, appropriate normative and legal basis containing, in particular, a number of provisions for capital and venture funds providing access to foreign currency credit means for entrepreneurs in an amount of more than \$350 mln., and moreover, variety of programs directed to the economy restructuring, including those ones that have being implemented with the assistance of the United Nations. Accordingly, it is observed that people recently have become more active in creating private enterprises. It is particularly expressed by the fact that the total number of tenants of small and private entrepreneurship exceeds now 350,000. Among them there are above 130,000 small and private enterprises, i.e. juridical persons, and more than 220,000 physical persons involved in individual business.

At the same time, SME sector of Uzbekistan as well as all over the world has got a number of problems harmful for its stable and sustainable development. Among them - insufficient readiness of entrepreneurs to work in market conditions, lack of knowledge in market economy principles (management, marketing, etc.) and acting legislation, lack of professional skills (computer literacy, knowledge of record keeping, accounting, taxation, etc.), lack of information on prospective technologies and know-how, absence of the entrepreneurial "culture". Such kinds of problems are typical for newly established firms, managers of which only yesterday had been engaged in other business far from entrepreneurship. Thus, one can see the fact that, according to the data of the Minmacroeconomstat of the Republic of Uzbekistan, only 40% of registered SME were really active in 1997, with greater part (about 60%) of

firms engaged mainly in trade and mediator activity. Correspondingly, only 20 and 10% of firms were engaged in sphere of consumer goods and agricultural business. Moreover, a great number of firms break down within one year after their creation.

Government, therefore, pays a lot of attention to the development and creation of frame conditions for SME development, and strongly encourages the UNDP initiative to establish and promote business incubators as means of nurturing entrepreneurial activity and to create more favorable environment to support small businesses.

After the UNDP pilot project, that proved to be successful and showed the effectiveness of business incubators as a valid mechanism for stimulating and supporting new entrepreneurship, the Government allotted its own budget resources for establishing national network of business incubators within the framework of ongoing project implemented by the Government through the Committee for Management of State Property and Entrepreneurship Support of the Republic of Uzbekistan and UNDP.

### **Business Incubators in Uzbekistan**

The Technology Business Incubator was established in 1995 in Tashkent under The Tashkent State Technical University as a joint project of UNIDO and the Government of the Republic of Uzbekistan "Pilot Business Incubators Programme and development of private enterprise" for the support and practical assistance to small and middle size entrepreneurs.

Technology Business Incubator is a private organization grouping specialists and operators from innovation and technology centers, small productions units with are technology oriented or engaged in innovative activity as well as free-will based enterprises. Along with UNIDO, Goscomimushestvo of the Republic of Uzbekistan sponsored the incubator.

Technological Business Incubator has 25 offices rented to private firms, equipment room, conference hall and a comfortable cafeteria.

## Recent Grants: Uzbekistan, Turkmenistan, and Tajikistan

May 15, 2002

The Eurasia Foundation's Tashkent Advisory Board has approved approximately \$195,000 in grants to fourteen organizations to promote private enterprise and civil society development in Uzbekistan, Turkmenistan, and Tajikistan.

**Table 1: Business Incubators of Uzbekistan:**

Business Incubators	Address	Director's name/E-mail	Telephone/Fax
"RBI"	Tashkent, 72a Sadyk Azimov str.,	Tsihiyev I. <a href="mailto:zafar@rbifreenet.uz">zafar@rbifreenet.uz</a>	(998-71)144-82-51 (998-71)144-82-50
"Biznes-Imkon"	Andijan, 7 Oshskaya str.	Turdaliyev K.	(998-37422)5-92-61 (998-37422)5-43-46
"Bukhoro"	Bukhara, 2 P.Neruda str.	Khodjiev M.	(998-36522)6-13-69
"Guliston"	Gulistan, Business Center	Asalov K.	(998-36722)2-39-08
"Turon"	Almalyk, 56 Amir Temur str.	Itkin Sh.	(998-261)4-23-77 (998-261)3-18-87
"Djizak"	Djizak, Drujby Narodov prospect, Polytechnic Institute	Tagmatov K.	(998-37222)3-57-00
"Nukus"	Nukus, Business center	Babashev M.	(998-36122)7-99-07
"UFK"	Karshi, 1 Mustakillik prospect	Tursunov M.	(998-37522)3-19-65 (998-37522)3-19-61
"Namangan"	Namangan, 7 Kasansayskaya str.	Kholmatov N.	(998-36922)6-29-96 (998-36922)6-88-28
"Fan"	Navoi, "Sputnik" district,	Shodiyev B.	(998-343622)6-66-75
"Ipak Yoli"	Samarkand, 93 Akhunbabayev str.	Bakaev A.	(998-3662)35-08-10 (998-3662)31-11-87

**Table 1 (Continued) : Business Incubators of Uzbekistan:**

<b>Business Incubators</b>	<b>Address</b>	<b>Director's name/E-mail</b>	<b>Telephone/Fax</b>
<a href="#">"Reg-Bins"</a>	Samarkand, 70 Lolazor str.,	Kholmukhamedov M.	(998-3662)37-23-44 (998-3662)37-33-55
"SAU"	Tashkent, State Agricultural University	Toshmatov A.	(998-712)45-45-52 (998-712)45-95-87
<a href="#">"TBI"</a>	Tashkent, 80 Niyazov str.,	Saliyev A.	(998-712)46-34-36 (998-712)46-58-11
<a href="#">"Fursat Maskani"</a>	Tashkent, Vladimirsky proezd, 15	Khamidov R. <a href="mailto:fursat@aport2000.ru">fursat@aport2000.ru</a>	(998-712)67-95-07 (998-712)67-57-94
"IBI" TIIMA	Tashkent, 39 Kary Niyazov str.,	Nuriddinov U.	(998-712)35-33-86 (998-712)35-33-35
"Technomarket"	Tashkent, 183 Almazar str.,	Sabirov A.	(998-712)45-28-46
<a href="#">"Intellect"</a>	Termez, A.Navoi prospect,	Altyev A.	(998-37622)4-10-04 (998-37622)4-56-68
"Tadbirkor"	Urgench, 2 Gurlenskaya str.	Atadjanov A.	(998-36222)6-81-68
"Oltyn Vodiy"	Fergana, 19 Usmankhodjaeva str.,	Yuldashev B.	(998-37322)24-29-73 (998-37322)24-34-85
"Chirchik"	Chirchik, 1a Lomonosov str.,	Khasanov U.	(998-271) 62-85 (998-271) 53-131
"Shakhrisabz"	Shakhrisabz, 43 Amir Temur str.,	Ostanaev F.	(998-37556)2-05-61
<a href="#">"STBI"</a>	Tashkent, Abdullaev str.,	Ramazanov Sh.	(998-71)162-79-79 (998-71)162-79-53

## YEMEN

Data taken from:

<http://www.yementimes.com/2000/iss04/b&e.htm>

### **General Information:**

Yemen is located between Oman and Saudi Arabia in the Middle East, bordering the Arabian Sea, Gulf of Aden, and Red Sea. North Yemen became independent of the Ottoman Empire in 1918. The British, who had set up a protectorate area around the southern port of Aden in the 19th century, withdrew in 1967 from what became South Yemen. Three years later, the southern government adopted a Marxist orientation. The massive exodus of hundreds of thousands of Yemenis from the south to the north contributed to two decades of hostility between the states. The two countries were formally unified as the Republic of Yemen in 1990. A southern secessionist movement in 1994 was quickly subdued. In 2000, Saudi Arabia and Yemen agreed to a delimitation of their border.

**Population:** 18,078,035 (July 2001 est.).

**Ethnic Groups:** Predominantly Arab; but also Afro-Arab, South Asians, Europeans.

**Languages:** Arabic

### **Small Enterprises: Reality and the Horizons of their Development in Yemen** *By Ismail Al-Ghabiri, (Yemen Times)*

The reality of small enterprises and handicraft in Yemen is weak and simple. It is still confined to old stereotype and has not been upgraded to the level of small enterprises that have largely developed. It could not reach a high quality or achieve developed growth. This conclusion is based on indicators of the first industrial survey of 1996. If we look at the geographical distribution of small industrial enterprises, we find that they are concentrated in the cities of Sana'a and Ibb, and this could be attributed to population density. The role of women in this field is mainly confined to work depending on the skill of careful use of hands such as

sewing and embroidery. Woman labor in this field forms 2.4% of the total volume of labor, i.e., 1258 employees.

Among the reasons behind weakness and inability of these industries in Yemen are attributed to their dependence on self efforts without any specified program. This sector did not rise to the level of small industrial enterprises due to its incapability of providing big industries with their needs of materials and therefore those industries are mainly dependent on importing their needs from abroad. Moreover, this sector cannot benefit from products of big enterprises because of non-existence of integration and absence of modern technology, added to that is that these industries based on handicraft profession based on individual skills.

To develop this sector and make publicity for it abroad, industrial zones or industrial complexes must be founded without making it sustain large sums of money for buying pieces of land and for erecting buildings and also prevent its random spread in Yemen. To enable this sector to develop and be qualified to play an effective role in the national economy, we have to amend the commercial banks credit policy by allotting part of their funds for financing this activity through easy conditions regarding interest rates and encouraging the establishment of associations patronizing small enterprises. There must be encouragement of founding a social fund in which the government must participate through financing houses, associations, industrialists and assistance from sisterly and friendly countries.

To develop this sector in order to participate in the process of development, the state should take a host of measures represented by the following:

- 1- Systematic arrangements represented by founding a supervising party to regulate its work and activity.
- 2- Promoting its products by holding commercial markets and exhibitions through different information media.

**3-** Improving the level of production by creating qualified and well-trained cadre capable of dealing with advanced technology and activating the role of woman, also by training and qualification.

**4-** The geographical distribution of the handicraft industries must be according to the aims of those industries.

**5-** Distributing the utilities on industries dependent on local raw materials and industries feeding medium and big industries.

**6-** Developing and adjusting the financing policy of local funding institutions and the foreign donors.

### **The UNIDO Integrated program in Yemen**

Challenge: Building competitive businesses to reduce unemployment rates currently estimated at 30-40 percent.

Objectives: The program aims to increase the efficiency of existing industries; create new, internationally competitive local manufacturing industries; and strengthen industrial support institutions and national expertise.

#### **COMPONENT I: SUPPORT INSTITUTIONS AND ENTERPRISES**

Strengthened competitiveness and capabilities of existing enterprises to meet quality requirements imposed by World Trade Organization (WTO) membership; Assistance to enterprises in pollution control, energy and water savings and waste management (Component Cost: US \$1,413,700).

#### **COMPONENT II: INDUSTRIAL POLICY, INVESTMENT AND BUSINESS ADVICE**

Enhanced national capacity in policy development and implementation for industrialization and promotion of local and foreign investment; Institutional support mechanisms to promote investments; Business advisory services for information, advice, counseling and training (Component Cost: US \$1,413,700).



## WORLD WIDE WEB ADDRESSES

Advanced Technology Development Center (ATDC):

<http://www.atdc.org>

Advance International: <http://www.advance.com>

Ashkelon Technological Industries (ATI): <http://www.ati.co.il>

Becton Dickinson Biotechnology Incubator:

<http://www.bd.com/technologies/busdev>

Cargill eVentures: <http://www.cargilleventures.com>

Cenetec Ventures: <http://cenetec.com>

Cisco Systems: <http://www.cisco.com>

CMGI: <http://www.cmgi.com>

Council for Entrepreneurial Development, North Carolina  
(CEDNC): <http://www.cednc.org>

Dell Ventures: <http://www.dellventures.com>

Divine InterVentures: <http://www.divine.com>

Dubai Internet City: <http://www.dubaiinternetcity.com>

Eli Lilly & Co.:

<http://www.e.lilly.com> and <http://www.lillybioventures.com>

Enterprise Ireland: <http://www.enterprise-ireland.com>

Eurasia Foundation: <http://www.eurasia.org>

Fizzion (Coca-Cola): <http://www.fizzion.com>

Garage.com: <http://www.garage.com>

Hoovers Online: <http://www.hoovers.com>

Ideavelopers/Pyramid Smart Village:

<http://www.mcit.gov.eg/IDV.html>

Incubator America: <http://www.incubatoramerica.com>

IncuVest/Vennworks: <http://www.vennworks.com>

Initiative Center of the Negev (ICN): <http://www.icn.co.il/>

Intel Capital: <http://www.intel/capital/index.htm>

International Business Incubator: <http://www.ibi-sv.org>

International Finance Corporation: <http://www.ifc.org>

Internet Capital Group (ICG): <http://www.icg.com>

iPark Silicon Valley: <http://www.iparksv.com>

iPark Boston: <http://www.iparkboston.com>

IPO.com: <http://www.ipo.com>

Israel Technology Incubators:

[www.smallbusinessnotes.com/incubation/israel.html](http://www.smallbusinessnotes.com/incubation/israel.html)

Jerusalem Software Incubator Ltd.: <http://www.jsi.co.il>

JETRO US-Japan Business Incubation Center:

<http://www.jetro.org>

Johnson & Johnson Development Corporation: <http://www.jnj.com>

Korea Venture Center: <http://www.sbc.or.kr/english/kvc.html>

Lucent New Ventures Group: <http://www.lucent.com>

Lucent Venture Partners:

<http://www.lucent.com/press/0298/980128.cob.htm>

Merck Capital Ventures: <http://www.merckcapitalventures.com>

National Business Incubation Association (NBIA):

<http://www.nbia.org/>

Nidus Center for Scientific Enterprise (Monsanto Company):

<http://www.niduscenter.com>

Panasonic Digital Concepts Center (PDCC):

<http://www.panasonicventures.com>

Raza Foundries: <http://www.razafoundries.com>

Safeguard Scientifics, Inc.: <http://www.safeguard.com>

Scottish Technology and Research Centers:

<http://www.scottish-enterprise.com>

Softbank Corp.: <http://www.softbank.com>

Software Technology Parks of India:

<http://www.stph.net/contact/ocenters.html>

TechSpace: <http://www.techspace.com>

Telecommunications Development Fund: <http://www.TDFund.com>

United Nations Educational, Scientific, & Cultural Organization

(UNESCO): <http://www.unesco.org>

United Nations Development Fund for Women (UNIFEM):

<http://www.unifem.org>

United Nations Development Programme (UNDP):

<http://www.undp.org>

United Nations Industrial Development Organization (UNIDO):

<http://www.unido.org>

United States Agency for International Development (USAID):

<http://www.usaid.gov>

Verner, Lipfert, Bernhard, McPherson & Hand:

<http://www.piperrudnick.com>

World Bank: <http://www.worldbank.org>

World Trade Organization: <http://www.wto.org>

# INDEX

## A

Accelerator 27, 28, 29, 32, 33, 34, 37, 52, 53,  
54, 55, 58, 60, 65, 70, 110, 119, 127

Accelerators 18

Acquisitions and mergers 19

Active incubators 28

Advanced Technologies Center Association 242

Advanse International 131, 134

Advanse International (France) 23

Afghanistan 25, 173, 180, 273, 303, 315

AIG 43

Al Raya Garment Industry Project – Mafrag 247

Alexandria Business Association 220

AltaVista 48

Am,-Shav—Technological Applied  
Development Center 242

American International Group, Inc. 43

Angel investors 18

Ankara Technology Development Center 300

Ankara Technology Development Centre 300

Appropriate Technology and Business Training 282

Aqaba Women's Center 247

Arab States region as it is referred 169

ARCEIT 198

Arlington County 153

Armenia 24, 182–191

Ashkelon Technological Industries 239

Asia 132, 134

Askari Commercial Enterprises 273

Assiut Businessmen's Association 221

Athena High Technology Incubator Ltd. 209, 210

Atyrau Business Development Center 261

Austin Technology Incubator 140

AV Labs 34

Azerbaijan 24, 192–197

## B

B.Ü.KOSGEB Technology Development Centre 300

Bahrain 24, 198–207

Bahrain Development  
Bank 165, 198, 199, 200, 202

Bahrain Marketing and Promotions Office 200

Bahrain Training Institute 165

Baku Entrepreneur's Assistance Center 196

BD Biotechnology Incubator 51

Bear market 32, 33

Becton Dickinson 51

Becton Dickinson Biotechnology Incubator 22

Becton-Dickinson 22

Beijing 137

Belarus 167, 174

BIC 141

Biotechnology 26

Biotechnology venture funds 48

Bosnia and Herzegovina 167

Boston 131, 136, 137, 139, 150, 151, 156

Bratislava 167, 168

Bureau for Development Policy 167

Business Café 155

Business incubation 14

Business incubator networks 24

Business Technology Incubation Center 222

## C

Cambridge Incubator 34

Cambridge Innovations 34

Canada 150

Cargill eVentures 21

Cenetec Ventures 15  
 Center for Technological Development 237  
 CERMA 288  
 CERN 276  
 Cisco 276  
 Cisco Systems 21  
 Citibank 253, 261, 262  
 Client fees 17  
 CMGI 20, 29, 30, 33, 35, 48, 63, 64, 72, 73, 118, 119, 123, 125  
 CMGion 48  
 Coca-Cola 22  
 Compaq Computer Corporation 47  
 Complementarities hypothesis 45  
 Comstellar Technologies 32  
 Conglomerate 29  
 Corporate incubator 27  
 Corporate parent 21, 26, 27, 45, 49, 50  
 Corporate venture arms 18, 26, 27, 40, 41, 42, 44, 45, 46, 48, 50, 51, 79, 129  
 Corporate-sponsored incubator 27, 50, 51, 92, 106, 129  
 Culture-based enterprises 166  
 Cupertino 144  
 Cyprus 24, 208–210

## D

Dakahleya Businessmen's Association for Investment 222  
 Data collection 15  
 Dell Ventures 21  
 Development Programs Ltd. 184  
 Digital Concepts Center 144, 156  
 Direct and indirect profitability strategies 159  
 Direct investments 27, 73

Divine, Inc. 39  
 Divine InterVentures 20, 39  
 Dot.com 19, 27, 28  
 Doug Devereaux 15  
 DP 184  
 Dubai - Palestinian Products Exhibition 283  
 Dubai Internet City 24, 180, 312, 313, 314  
 Dynaptics Corp 144

## E

E.Lilly 21  
 Early stage seed capital 16  
 EC2 140, 141  
 EC2 Annenberg Incubator Project 140  
 EcoNets 18, 27, 28, 29, 30, 31, 32, 122  
 Economic development 14, 158, 159, 160, 166, 169, 174, 196, 212, 213, 214, 222, 223, 259, 260, 291, 299  
 Economic reform 168, 175, 186, 216, 305  
 EDF 134  
 Egypt 24, 211–224  
 Egyptian Small Enterprise Development Foundation 221  
 Electricité de France 134  
 Elements of successful business incubation 17  
 Eli Lilly & Co 21  
 Eltam-Technology Incubator, Ltd. 237  
 Emerging Markets 161  
 Emerging markets 161  
 Emirates Intellectual Embryo 314  
 Engage Technologies 30  
 Enterprise Center 153  
 Enterprise factory network 38  
 Enterprise Ireland 23, 131, 135, 136, 156  
 Enterprise North Florida Corporation 15

Entrepreneurial Training Foundation 270  
 Entrepreneurship Development Institute of  
     KOSGEB 297  
 Entrepreneurship Development Program 165  
 Equity 18  
 Equity investments 27, 75, 83, 86, 92, 100, 108  
 Erik Sander 15  
 Eritrea 25  
 Erman, Greg 33  
 ETF 270  
 EToys 34, 35, 125  
 EuclidSR Partners 49  
 Eurasia Foundation 161, 174, 175, 194, 259,  
     261, 296, 305  
 Europe 132, 134, 149  
 European Training Foundation 264, 265, 266  
 Eve.com 35

## F

Failure rates 32  
 Finland 153  
 FirstLook.com 35  
 Fixed-term leases 179  
 Fizzion 22, 51  
 For-profit accelerators 28  
 For-profit incubators 26, 29, 32, 33, 37, 128  
 Foreign investment 160, 178, 180, 184, 200, 212,  
     223, 268, 278, 318, 324  
 Foreign-owned business incubators 22  
 Foreign-owned companies 130  
 Foreign-owned incubators 130, 131, 133  
 Free market capitalism 159  
 Free trade zone 180, 312  
 Fusion Ventures 33

## G

Garage Technology Ventures 38  
 Garage.com 20, 35, 55, 56, 120, 124, 125,  
     126, 128  
 Gat High Tech Center 242  
 George Mason University 153  
 Georgia Institute of Technology 51  
 GlaxoSmithKline 48  
 Globalization 14, 160, 172, 173  
 Golan Initiative Center 237  
 GoTo.com 34, 35  
 Government of Ireland 135  
 GrandBanks Capital 150, 151  
 Guba Women and Family Entrepreneurship  
     Center 196

## H

Har Hotzvim 240  
 Harris Corporation 32  
 HatchingIT 227  
 Heritage Foundation 187  
 Herndon 147, 148  
 Hosting programs 131  
 Hotbank 149, 150, 151, 152  
 "Hotbank" incubators 149  
 Houston 147, 148  
 Hybrid models 132

## I

I-Group 151, 152  
 I-group 151  
 IBI 131  
 IBIS 226  
 IBM 276  
 ICG 20

- ICICI Infotech Incubation Center 227
- ICT sector 187, 217
- IDC 36
- Idealab! 34, 35, 56
- Ideavelopers 224
- IFC 161
- Ignition Partners 150, 151
- Income streams 17
- Incubator America! 23, 132, 140, 153
- Incubator for Technological  
Entrepreneurship–Kirya 239
- Incubator management 14
- Incubators without walls 179
- IncuNet 132
- IncuVest 38
- Incuvest/Vennworks 20
- India 24, 225–230
- India Infotech Center 155
- Indiaco (P) Limited 228
- Information technology 27, 32, 47, 66, 68, 73,  
80, 83, 86, 91, 108
- Information Technology Special Interest Group 286
- Initial public offerings 26
- Initiative Center of the Negev 243
- Institute of Multimedia Content and Software 138
- IntAcct 146
- Intel 41
- Intel Capital 21, 42, 86, 88, 89, 90, 124, 128
- Internal entrepreneurs 21
- International Business Incubator 23, 131, 154
- International business incubators 14
- International Finance Corporation 161, 306
- International incuba-  
tors 22, 130, 131, 132, 133, 154
- Internet Capital Group 35, 39, 68, 72, 125
- Internet incubators 33, 56, 125, 126
- Internet-based companies 19
- Internet-related companies 26
- Investment Company Act of 1940 29
- Investment-type incubation 18
- Investor Roundtable 268
- iPark 131, 137, 138, 139
- iPark Silicon Valley/Boston 23, 131, 137
- iPark SV 137, 138
- IPO 19
- Iran 24, 231–232
- Iraq 25, 180, 231
- Israel 24, 150, 153, 233–244
- Istanbul Y.T.Ü-KOSGEB Technology Development  
Centre  
301
- ITPO Bahrain 201
- ## J
- Japan 22
- Japan External Trade Organization 140
- Japan Small and Medium Enterprise Agency 140
- Jerusalem College of Technology Incubator 241
- Jerusalem Software Incubator Ltd. 240
- JETRO 131, 140, 141, 157
- JETRO US-Japan Business  
Incubation Center 23, 131
- Jobs 16
- Johnson & Johnson Development Corporation 21
- JOHUD 257
- Jordan 24, 245–257
- Jordan Design and Trade Center 246
- ## K
- KABIIC 260, 261
- Kanza Knits – Russeifa 248

Kazakhstan 24, 258–263  
 Kazakhstan Institute for Management and  
 Economic Research 294  
 Kazakhstan's Association of Business Incubators and  
 Innovation Centers 260  
 Keiretsu 29  
 Ken Ferguson 15  
 King Fahd University of Petroleum and Minerals 290  
 Kingston Technology 149  
 KIPA 137  
 Korea 23  
 Korea Computer Program Protection Association 137  
 Korea IT Industry Promotion Agency 137  
 Korea Multimedia Contents Promotion 137  
 Korea Software Support Center 137  
 Korea Venture Center 23, 131, 143  
 Korean Software Incubator 138, 155  
 KOSIA SMEDA 194, 195  
 Kosovo 167  
 Kyrgyzstan 264–269

## L

Latin America 134, 149  
 LDC 170  
 Least Developed Country 170  
 Lebanon 270–272  
 Libya 25, 180, 211  
 Lilly BioVentures 21  
 Liquidity events 26, 28, 32, 33, 40  
 Local knowledge 166  
 London 137  
 Los Angeles 140, 156  
 Lucent New Ventures Group 22  
 Lucent Technologies 21  
 Lucent Venture Partners 21

## M

Macedonia 167  
 Managers 17  
 Market Access Programme 147  
 MarketSoft Corp. 33  
 Matsushita 144, 145, 146, 156, 157  
 McCaw Cellular 151  
 McKinsey & Co. 29  
 Medicinal Herbs Project 248  
 Mentor capital 151  
 Mergers and acquisitions 26  
 Metacompanies 18, 27, 28, 31, 32, 125  
 Microsoft 151  
 Ministry of International Trade and Industry 140  
 Misgav Technology Center 238  
 Mobius Venture Capital 149, 151  
 Mofet B'Yehuda—Industrial R&D in Judea, Ltd. 242  
 Moldova 167, 174  
 Monsanto 21  
 Monsanto Corp. 50  
 Morris Windhorst 15  
 Morrocco 180  
 Multi-cultural experts 134  
 Mustang Ventures 41  
 Mutual fund 29

## N

Nablus incubator 280  
 Naming trends 37  
 National Business Incubation Association 17, 32,  
 50, 126  
 National Federal of Business and Professional  
 Women's Clubs 249  
 National Venture Capital Association 47  
 Nazareth Illit Technologies Entrepreneurs Center 238



- NBIA 17
- NCC 170
- Ncubator Program the Government of Cyprus 209
- Nebatsu 151
- NeoTech 132
- Net Contributory Country 170
- Netakeoff 272
- NetGen 41
- Networking of incubators 132
- NetZero 34, 35
- new economy 146
- New venture risk 31
- New York 136, 150, 151, 157
- Nidus Center 51
- Nidus Center for Scientific Enterprise 22
- Noor Al Hussein Foundation 245
- North America 134
- Northwestern University 140
- NurtureIT 228
- O**
- Office of Technology Policy 14
- Old economy 146
- OpenMind Publishing Group 33
- Operating companies 26, 28, 29, 31, 47, 52, 63, 64, 73, 107
- Oracle 276
- Orlando 147, 148
- Orporate-sponsored incubator 18
- Overture Services, Inc. 35
- P**
- Pacific Rim Incubation Network 17
- PacketVideo 41
- Pakistan 24, 273–279
- Pakistan Software Export Board 278
- Panasonic 131, 144, 145, 146, 156, 157
- Panasonic Digital Concepts Center 23, 131, 144, 156
- Panasonic Strategic Ventures Co 145
- Panasonic Technologies Inc. 50
- Partnerships 46
- Patty Breedlove 15
- PDCC 144, 145, 146, 156
- Poland 167, 187
- Portfolio companies 28, 29, 30, 31, 32, 33, 34, 37, 42, 43, 45, 46, 48, 50, 51, 53, 55, 57, 63, 65, 68, 72, 73, 75, 80, 83, 84, 85, 86, 87, 89, 90, 92, 95, 99, 103, 105, 107, 109
- Post-conflict assistance 169
- Profitability 18
- Prototype incubator 155
- Provision of business contacts: 267
- Q**
- Qadir Research Incubator 231
- Queen Noor 246, 249
- Queen Rania 249
- R**
- Rad Ramot –Hi-Tec Incubator, Inc. 239
- Raindance 145
- Raza, Atiq 31, 70, 125
- Raza Foundries 20, 31, 36, 70
- RBEC 167, 168, 169
- Rbec 315
- Regional Bureau for Arab States 170
- Regional Bureau for Europe and the Commonwealth of Independent States 167
- Regulatory framework 160, 178, 218, 252, 286, 293
- Republic of Georgia 24, 287–289

- Republic of Korea 143
- Romania 167
- Rose Cauchon 15
- Russia 153
- S**
- Safeguard Scientifics 29, 30, 47, 58, 61, 68, 72, 119, 123, 126, 127
- Safeguard Scientifics, Inc 20
- San Francisco 141, 144, 146
- San Jose 23, 131
- Saudi Arabia 24, 290–292
- SBEM 161
- ScanXelerator 155
- Scientific Incubators Company, Ltd 241
- Scottish Development International 147
- Scottish Enterprise 147
- Scottish Executive 147
- Scottish Technology & Research Centers 23, 131
- Scottish Technology and Research 147, 155
- Scottish Technology and Research (STAR) Centers 147
- Scout Electromedia 35
- Seed Capital Partners 150
- Seed funds 18
- Shanghai 137
- Sharkeya Businessmen's Association for Community Development 221
- Sid Martin Biotechnology Development Institute 15
- Siemens 41
- Silicon Valley 135
- Sinai Technology Valley 223
- Slovak Republic 167, 168
- Small Business Incubators for Cultural Industries 166
- Small business loan programs 175
- Small Enterprise Development Foundation of Port Said 221
- Small-scale industries 166
- Smart Village 224
- Softbank 23, 131, 149, 150, 151
- Softbank Emerging Markets 161
- Softbank Venture Capital 149
- Software Business Cluster 145
- Software Technology Parks of India 155, 228
- Son, Masayoshi 149
- Soreq Technology Center Ltd. 239
- South Korea 137, 139, 143
- Soviet States 165, 167, 177
- Stakeholders 17
- Stanford Technology Ventures Program 31
- STAR 147
- START 134
- State-owned enterprises 160, 264
- Sub-Regional Resource Facility 167
- Sudan 25, 180, 207
- SunAmerica Ventures 43
- SURF 167, 168
- Surf 315
- Syndication 45
- Syria 25
- T**
- T., Morten Hansen 36
- Tacis Program 259
- Tajikistan 24, 293–296
- TASER 216
- Tech wreck 32
- Technical Assistance to Support Economic Reform 216

- Technion Entrepreneurial Incubator Company, Ltd. 238
- Techno-parks 188
- Technology Center Ofakim 243
- Technology Incubator– Arad 243
- Technology Innovation Center 140
- Technology park 279
- Technology Partnerships 145
- Technology Transfer/Business Partners Programme 135
- Technology-based 14
- Technology-based start-ups 26
- TechSpace 20, 38
- Techwell 33
- Telecommunications 177, 180, 190, 191, 218, 285, 312, 314
- Telecommunications Development Fund 20, 39
- The International Business Incubation Systems 226
- The Jordan Micro Credit Company 248
- The Jordan River Foundation 249
- Tickets.com 34, 36, 123
- TigerGate 2000 program 140
- Tokyo 137, 149
- Trabzon Technology Development Centre 300
- Traditional incubators 26, 27, 47
- Transitional economies 15
- Turkey 24, 297–301
- Turkmenistan 24, 302–306
- ## U
- Ukraine 167, 174, 175, 183, 295
- UNDP 161, 166, 167, 168, 169, 170, 222, 256, 280, 316, 319
- UNESCO 161, 166, 311
- UNIDO 24, 161, 164, 165, 197, 198, 201, 202, 207, 222, 273, 274, 316, 319, 324
- Unido 225, 273
- UNIFEM 161, 170, 171
- UNITED ARAB EMIRATES 307–314
- United Arab Emirates 24
- United Nations 17, 159, 161, 164, 166, 170, 171, 198, 226, 281, 290, 307, 308, 322
- United Nations Development Fund for Women 161, 170
- United Nations Development Program 161, 166, 305
- United Nations Educational, Scientific and Cultural 161
- United Nations Industrial Development Organization 24, 161, 164, 198, 222
- University of Bahrain 165
- University of Southern California 140
- US Agency for International Development 159, 161, 259, 285
- US Department of Commerce Technology Administration 14
- US foreign policy 162
- US-Japan Business Incubation Center 131, 140, 141
- USAID 159, 161, 162, 164, 174, 192, 212, 214, 215, 216, 217, 219, 245, 250, 251, 252, 253, 255, 256, 259, 262, 263, 267, 268, 269, 284, 293, 294, 295, 296, 302, 304, 305, 317
- Uzbekistan 24, 164, 165, 167, 174, 176, 265, 266, 315, 315–321, 316, 317, 318, 319, 320, 321
- ## V
- Vendor capital 41, 126

Vennworks 38

Venture arm 40, 41, 42, 48, 49, 50, 80, 83, 84, 85, 86, 87, 89, 90, 91, 92, 93, 99, 100, 104, 107, 118

Venture capital firm 40, 42, 56, 58, 72, 119

Venture capital investment bank 38

Venture catalysts 37

Venture investment 15

VentureOne Corp. 42

Verner, Lipfert, Bernhard, McPherson & Hand 20

Verner, Lipfert, Bernhardm, McPherson & Hand 39

ViaSphere International 191

ViaSphere Technopark 191

Virtual clients 154

Virtual incubation 131

Virtual incubators 179, 282

Virtual offices 147

Virtual Presence 134

## W

Wall Street Journal 187

West Bank/Gaza 24, 179, 233, 280, 280–286, 281, 282, 283, 284, 285

Western Negev Initiative Center 244

Women 161, 167, 168, 170, 171, 172, 173, 174, 177, 180, 194, 195, 196, 219, 220, 246, 247, 248, 249, 250, 251, 295, 298, 304, 322

Women-owned firm 134

Women's Technology Cluster 145

World Ban 17

World Bank 159, 161, 188, 199, 209, 227, 302, 317

World Bank Group 161

World Wide Web addresses 325

## Y

Y.T.B. Technological Enterprises In Ariel 240

Yahoo 149

Yemen 24, 322–324

YMCA of Jerusalem 282

Yozmot—Granot Initiative Center 240

## Z

Z.com 35



**Office of Public Affairs**

Cheryl Mendonsa, Director  
E-Mail: [PublicAffairs@ta.doc.gov](mailto:PublicAffairs@ta.doc.gov)  
(202) 482-5913

**Office of Congressional Affairs**

Angela Ewell-Madison  
E-Mail: [CongressionalAffairs@ta.doc.gov](mailto:CongressionalAffairs@ta.doc.gov)  
(202) 482-4605

U.S. Department of Commerce  
Technology Administration  
14th & Constitution Avenue, NW  
Washington, DC 20230