

Venture Capitalist.gov: Courting the Ultimate Angel Investor

<http://americanventuremagazine.com/articles/243?pag=0>

By Brian Finlay

Senior Associate, The Henry L. Stimson Center
January 2006



At the height of the Cold War, the Soviet Union employed hundreds of thousands of highly specialized nuclear, biological, chemical and rocket scientists, engineers, and technicians. Their job was straightforward: to build and maintain an array of sophisticated warheads, missiles, pathogens, and chemical cocktails capable of destroying the world many hundreds of times over. The disintegration of the USSR, however, set off a series of events that would forever alter the course of human history. The end of the tense confrontation between the world's "superpowers" allowed for renewed attention to the crises of poverty, the spread of infectious diseases, and degradation of the environment and dozens of other previously overlooked global priorities. Vastly reduced defense expenditures led to a reprioritization within the United States government and new money was found for education, health care, and international development. The passing of the "duck and cover" era where children were taught to cower beneath their school desks in the event of a nuclear exchange with the "evil empire" led to a global euphoria over a perceived "new world order."

Celebration of the defeat of communism soon gave way, however, to harsh new realities. Russia and its former Soviet partners were emerging from behind the Iron Curtain as *de facto* failed states, incapable of meeting even the most basic needs of their citizens. One particularly ominous, though unpublicized, derivative was the overnight redundancy of tens of thousands of

former Soviet weaponeers. At the height of the Cold War, it was estimated that more than 200,000 scientists, engineers and technicians capable of designing and building the worlds most destructive weapons were employed by Moscow. Now jobless and facing skyrocketing inflation, they became prime targets of headhunters from Iran, North Korea and various well-funded terrorist organizations who flooded the country with lucrative job offers.

Fear of the unchecked departure of weapons expertise to terrorist states led the United States government to pioneer a set of programs in the early 1990s designed to "redirect" these individuals to peaceful scientific pursuits. Engagement of these scientists proved highly effective as the community responded favorably to scientific partnerships with the West. These early US government assistance efforts were designed to provide short-term employment and relied entirely upon yearly appropriations from Congress. By providing direct assistance to individuals of proliferation concern, the United States could "buy off" these individuals and convince them to remain in place at their erstwhile weapons laboratories. In most cases, structural flaws in program design have largely prevented long-term employment of these individuals and rationalization of the bloated weapons complex in the states of the former Soviet Union.

Today, evidence of donor fatigue permeates the missions of these national security programs as the US

deficit skyrockets and as Members of Congress face increased budgetary pressures. Faced with the prospect of cutting funds for food stamps to Americans in need, these engagement programs are coming under heightened scrutiny and face the prospect of elimination.

The elimination of these programs would be a significant defeat for the United States in its broad efforts in the war on terrorism. While the economies of the former Soviet states have improved markedly since the early 1990s, it is estimated that tens of thousands of scientists, engineers and technicians remain under- or inadequately employed and thereby present alluring targets to al Qaeda and terrorist states like North Korea and Iran. Fortunately, a committed group of American businesses and entrepreneurs have stepped in to assist and outperform US government programmers. By the mid- to late-1990s, Washington awoke to the realization that the scientific talents of these former Soviet personnel could have direct application to commercial development in the private sector. An innovative set of US government funded programs was therefore established enabling American companies and former Soviet scientists, engineers and organizations to explore new commercial research partnerships and move the fruits of their collaborations to market.

Where the US government saw a national security threat to be addressed, a small group of wise businesses and venture capitalists have seen commercial opportunity.

Pairing the goals of business development with national security, their story is one of doing well by doing good. Just as the massive military build-up of the Cold War had encouraged innovation here in the United States—like microwave ovens, smoke detectors, and the internet—forty seven years of competition also left the post-Soviet states with a huge, highly trained, and comparatively inexpensive pool of underutilized scientific talent. The potential opportunities for a subset of these scientists and technicians to pursue commercial activities and contribute to economic development have been pursued to significant benefit—not only financially for the firms involved, but more broadly for the national security of our country.

SciClone and the Business of Fighting Terror

Over the past twelve years, well over \$1 billion has been appropriated by Washington to provide research grants to former nuclear, biological, chemical and missile scientists in the states of the former Soviet Union. An increasing share of these funds is being dedicated to enhancing economic opportunities in Eurasia and producing high-value products for American businesses. Companies ranging from large multinationals such as Boeing down to smaller start-ups have capitalized upon the significantly lower wages and comparative glut of unexploited capacity in the region.

As a result, US “redirect” programs have managed to engage tens of thousands of scientists in peaceful collaborative research projects with US businesses, research institutes, and universities.

A telling example: In the mid-1990s, California based SciClone Pharmaceuticals was amidst early R&D on a drug designed to boost the human immune system and dramatically accelerate recovery from viral infections. At the same time, a group of Russian scientists from Verta, a small biotechnology firm in Moscow, were developing a similar product in parallel. Recognizing the financial and scientific benefits of collaboration, SciClone obtained venture funding for technical and scientific collaboration. Not only could the Russian team provide a highly trained workforce on vastly reduced pay scales, the

requisite human and clinical trials necessary to bring a product to market were far more economical to conduct in Russia than in the United States. The US government acting as an “angel investor”, ultimately helped fund clinical trials of the drug in Russia. The trade off for the American government was not a financial return or percentage share of the business, but rather a return on investment that advanced US national security objectives. Additional government resources were invested to aid in the reformulation of the drug into an oral rather than injection administration. Bringing the product to market more quickly meant that up-front R&D expenses could be minimized. Further by first launching the product abroad, the costs of SciClone’s long FDA approval process would be offset by sales revenues and thus reduce the amount of external capital needed from outside investors which ultimately increased SciClone’s value.

Not only could the Russian team provide a highly trained workforce on vastly reduced pay scales, the requisite human and clinical trials necessary to bring a product to market were far more economical to conduct in Russia than in the United States.

Of course, the SciClone partnership had benefits beyond the obvious financial rewards. Not only did the firm promote “nation building” in Russia by assisting in economic development of the region, the project has employed up to 30 former bioweapons scientists, thus ensuring that their talents are not diverted to the nefarious pursuits of international terrorists.

The Roadmap to Success

SciClone is by no means the exception. American government investments have led the private sector and former Soviet scientists to develop edible vaccines, safer airbags, new hand and fingerprint technologies, an advanced explosive detection system, and even teeth whitening strips. In FY2002 alone, sixteen private firms willing to tap local talent in the former Soviet Union generated \$23.95 million

in sales and other revenues as a result of their activities. Equity markets responded favorably to their new technologies, generating \$40.6 million in investment from private, institutional, and venture capital investors. And most significantly, more than 563 permanent high-paying technical jobs were created in the former Soviet Union, ensuring that the potentially nefarious talents of former weaponeers were not siphoned off to work for Pyongyang or Osama bin Laden.

In the United States, venture capitalists have numerous avenues to explore scientific collaboration and business development in the region. The US Civilian Research & Development Foundation (CRDF) is a nonprofit organization authorized by Congress and established in 1995. The organization promotes international scientific and technical collaboration, primarily between the United States and Eurasia, through grants, technical resources, and training. CRDF works to advance the transition of foreign weapons scientists to civilian work by funding collaborative non-weapons research and development projects and helping to move applied research to the marketplace. Over its ten-year history, the organization has funneled more than \$249 million into collaborative projects with the former Soviet Union.

Similarly, the United States Industry Coalition, Inc. (USIC) is a nonprofit association of American companies and universities that facilitates technology commercialization with US government cost-sharing. More than 150 USIC members represent American industry from multi-national corporations and small entrepreneurial firms to state universities, private colleges and international business groups. USIC members apply their business, product development, and marketing skills to cost-shared projects at former Soviet weapons institutes, with the goal to create sustainable jobs and income for both themselves and their former Soviet partners. Leveraging about \$240 million in grants from the Department of Energy since 1994, USIC has been particularly effective in providing new resources and markets for US companies, while establishing important private sector linkages for former Soviet weapons scientists and engineers.

The Way Ahead

President Bush has asserted repeatedly that the greatest national security threat facing our country is the possibility of a nuclear, biological, or chemical weapon in the hands of a terrorist group. Today, the United States maintains the largest and most potent military force in the history of the world to mitigate that possibility. But in the age of terrorism, of information flows and international trade and travel, military force is no longer adequate to defend ourselves. The tools of catastrophic terrorism are increasingly less likely to be rooted in the acquisition of advanced weaponry, and more likely to be facilitated by highly trained individuals utilizing their talents for destructive ends. Engaging these gifted individuals in sustainable peaceful pursuits is rapidly becoming the front lines of the war on terrorism. Critical, though poorly publicized, opportunities exist for American businesses and venture capitalists to do their part while supporting their own bottom line.

Where to learn more:

The Henry L. Stimson Center

<http://www.stimson.org/cnp>

The Henry L. Stimson Center is a nonprofit, nonpartisan institution devoted to enhancing international peace and security through a unique combination of rigorous analysis and outreach. In January 2005, Stimson launched a multifaceted program designed to accelerate existing efforts, and design new projects aimed at more rapidly and sustainably securing dangerous weapons, materials and expertise. The Stimson Center works with the Departments of Defense, Energy, State, the US Congress, and the private sector to build new public private partnerships and advocate for greater efficiencies across the various "threat reduction" and scientist redirection programs.

The Civilian Research and Development Foundation (CRDF)

<http://www.crdf.org>

CRDF fosters the growth and sustainability of the Eurasian science and technology communities through its work with regional innovation programs, such as the Russian Foundation for Assistance to Small

and Innovative Enterprises (FASIE) and CRDF's own Science & Technology Entrepreneurship Program (STEP), which funds and mentors local institutions to serve as regional training and advocacy centers. These programs encourage regional growth and further local and international commercial investment.

The "Industry Orientation and Travel program" allows Eurasian scientists and engineers to meet with for-profit companies in the United States to discuss and develop new R&D partnerships, and learn about technology commercialization. The "First Steps to Market program" then stimulates the creation of new partnerships and business opportunities by funding first-time, commercially-oriented projects between US for-profit companies and Eurasian universities, institutes and companies. Finally, the "Next Steps to Market program" provides the resources required for more substantial R&D collaborations.

The United States Industry Coalition (USIC)

<http://www.usic.net>

USIC is a nonprofit association of American companies and universities. It works to facilitate technology commercialization for the scientist redirection programs of the US Department of Energy. Doing business in Russia and other FSU nations poses challenges, particularly for small and mid-sized companies. The United States Industry Coalition is an attractive option for US companies considering or already involved in technology commercialization in the FSU. USIC member companies whose projects are approved by the Department of Energy are eligible for matching federal funds to support development of their commercial technology.

About The Author

Brian Finlay is a senior associate at the Henry L. Stimson Center. He specializes in issues of nuclear and biological weapons proliferation, terrorism, and cooperative threat reduction. Previously, he has served as a program officer at the New York City-based Century Foundation (formerly the Twentieth Century Fund) and as a Senior Researcher in the Foreign Policy Studies Program at the Brookings Institution in Washington, DC. Before emigrating from Canada, he was a Project Manager for the Laboratory Center for Disease Control in Ottawa. There, he coordinated a team in assessing the economic impact of a bioterrorist incident on the Canadian homeland, helping to pioneer Health Canada's bioterrorism preparedness program. He also has served as a consultant to Foreign Affairs Canada. He holds a Masters degree in International Relations from the Norman Paterson School of International Affairs at Carleton University, and a Graduate Diploma from the Johns Hopkins School of Advanced International Studies.

bfinlay@stimson.org