Central Intelligence Agency
The Work of a Nation. The Center of Intelligence

Search >

Publications

In-Q-Tel

Table of Contents

In-Q-Tel: A New Partnership

Between the CIA and the Private Sector

Rick E. Yannuzzi*

On 29 September 1999, the Central Intelligence Agency (CIA) was treated to something different. In many of the nation's leading newspapers and television news programs a story line had appeared that complimented the Agency for its creativity and openness. The media was drawn to a small corporation in Washington, DC that had just unveiled its existence and the hiring of its first CEO, Gilman Louie. Mr. Louie described the Corporation, called In-Q-It, as having been formed "...to ensure that the CIA remains at the cutting edge of information technology advances and capabilities." **1** With that statement the Agency launched a new era in how it obtains cutting edge technologies. In early January 2000, the name of the corporation was changed to In-Q-Tel.

The origins of the concept that has become In-Q-Tel are traceable to Dr. Ruth David, a former CIA Deputy Director for Science and Technology. She and her Deputy, Joanne Isham, were the first senior Agency officials to understand that the information revolution required the CIA to forge new partnerships with the private sector and design a proposal for radical change. The timing of the proposal was fortuitous. The Director of Central Intelligence (DCI), George Tenet, had just launched his Strategic Direction initiative that included technology as one of its areas for review. The study made a direct link between the Agency's future technology investments and improving its information gathering and analysis capabilities.

By the summer of 1998, the Agency had assembled a few senior Agency staff employees with an entrepreneurial bent and empowered them to take Dr. David's original concept and flesh it out. Aided by a consulting group and a law firm, they devoted the next four months to making the rounds in Silicon Valley and elsewhere, putting the concept through the wringer. Much of the time was spent listening. Many they met with were often critical of one aspect or another of the concept. But, whether they were venture capitalists, Chief Executive Officers (CEO), Chief Technical Officers (CTO) or congressmen and staffers, they all eagerly immersed themselves in spirited debates that enriched the Agency team and drove the concept in new directions.

By the end of 1998, the Agency team reached a point at which the concept seemed about right. Though it had changed considerably from that which had been proposed initially by Dr. David, it remained true to its core principles. It was time to hand the product of the Agency's work over to someone in the private sector with the experience and passion necessary to start the Corporation. To the delight of the DCI and the Agency team, Mr. Norman Augustine, a former CEO of Lockheed-Martin and four-time recipient of the Department of Defense's highest civilian award, the Distinguished Service Medal, accepted the challenge. By February 1999, the Corporation was established as a legal entity, and in March it received its first contract from the Agency. In-Q-Tel was in business, charged with accessing information technology (IT) expertise and technology wherever it exists and bringing it to bear on the information management challenges facing the Agency.

[Top of Page]

Imperatives: Why was In-Q-Tel Created?

As an information-based agency, the CIA must be at the cutting edge of information technology in order to maintain its competitive edge and provide its customers with intelligence that is both timely and relevant. Many times the Agency and the federal government have been the catalysts for technological innovations. Examples of Agency-inspired breakthroughs include the U-2 and SR71 reconnaissance aircraft and the Corona surveillance satellites, while the creation of the Internet was led by the Defense Advanced Research Projects Agency (DARPA).

By the 1990s, however, especially with the advent of the World Wide Web, it is the commercial market that is setting the pace in IT innovation. And, as is the nature of a market-based economy, the flow of capital and talent has irresistibly moved to the commercial sector, where the prospect of huge profits from initial public offerings and equity-based compensation has become the norm. In contrast to the remarkable transformations taking place in Silicon Valley and elsewhere, the Agency, like many large Cold War era private sector corporations, felt itself being left behind. It was not connected to the creative forces that underpin the digital economy and, of equal importance, many in Silicon Valley knew little about the Agency's IT needs. The opportunities and challenges posed by the information revolution to the Agency's core mission areas of clandestine collection and all-source analysis were growing daily. Moreover, the challenges are not merely from foreign countries but also transnational threats. **2**

Faced with these realities, the leadership of the CIA made a critical and strategic decision in early 1998. The Agency's leadership recognized that the CIA did not, and could not, compete for IT innovation and talent with the same speed and agility that those in the commercial marketplace, whose businesses are driven by "Internet time" and profit, could. The CIA's mission was intelligence collection and analysis, not IT innovation. The leadership also understood that, in order to extend its reach and access a broad network of IT innovators, the Agency had to step outside of itself and appear not just as a buyer of IT but also as a seller. The CIA had to offer Silicon Valley something of value, a business model that the Valley understood; a model that provides those who joined hands with In-Q-Tel the opportunity to commercialize their innovations. In addition, In-Q-Tel's partner companies would also gain another valuable asset, access to a set of very difficult CIA problems that could become market drivers. Once the Agency's leadership crossed these critical decision points, the path that led to In-Q-Tel's formation was clear.

[Top of Page]

A Snapshot of In-Q-Tel

In-Q-Tel's founder, Norm Augustine, established it as an independent nonprofit corporation. Its Board of Trustees, which now has ten members, functions as any other board, initially guiding and overseeing the Corporation's startup activities and setting its strategic direction and policies. The CEO, who was recruited by the Board and reports to them, manages In-Q-Tel. The Corporation has offices in two locations -- Washington, DC and Menlo Park, CA -- and it employs a small professional staff and a smaller group of business and technology consultants. In-Q-Tel's mission is to foster the development of new and emerging information technologies and pursue research and development (R&D) that produce solutions to some of the most difficult IT problems facing the CIA. **3** To accomplish this, the Corporation will network extensively with those in industry, the venture capital community, academia, and any others who are at the forefront of IT innovation. Through the business relationships that it establishes, In-Q-Tel will create environments for collaboration, product demonstration, prototyping, and evaluation. From these activities will flow the IT solutions that the Agency seeks and, most importantly, the commercial opportunities for product development by its partners. To fulfill its mission, In-Q-Tel has designed itself to be:

- agile, to respond rapidly to Agency needs and commercial imperatives;

- problem driven, to link its work to Agency program managers;
- solutions focused, to improve the Agency's capabilities;
- team oriented, to bring diverse participation and synergy to projects;
- technology aware, to identify, leverage, and integrate existing products and solutions;
- output measured, to produce quantifiable results;
- innovative, to reach beyond the existing state-of-the-art in IT;
- and, over time, self-sustaining, to reduce its reliance on CIA funding.

At its core, In-Q-Tel is designed to operate in the market place on an equal footing with its commercial peers and with the speed and agility that the IT world demands. As an example, it can effect the full range of business transactions common to the industry -- it is venture enabled, can establish joint ventures, fund grants, sponsor open competitions, award sole source contracts, etc. And, because of the many degrees of freedom granted to it by the Agency, In-Q-Tel does not require Agency approval for the business deals it negotiates. **4** As such, In-Q-Tel represents a different approach to government R&D. It moves away from the more traditional government project office model in which the program is managed by the government. Instead, the Agency has invested much of the decisionmaking in the Corporation and, hence, In-Q-Tel will be judged on the outcomes produced -- i.e., the solutions generated -- and not by the many decisions it makes along the way.

[Top of Page]

In-Q-Tel's IT "Space"

As with many aspects of the In-Q-Tel venture, the Agency took a different approach in presenting its IT needs to the Corporation. It bounded the types of work that In-Q-Tel would perform -- its IT operating "space" -- by two criteria. In the first instance, it made the decision that In-Q-Tel would initially conduct only unclassified IT work for the Agency. Second, to attract the interests of the private sector, it recognized that In-Q-Tel would principally invest in areas where there was both an Agency need and private sector interest. Whereas in the past, much of the commercial computing world did not focus on those technologies useful to the CIA, the intersection zone between intelligence and private sector IT needs has grown tremendously in recent years. Many of the underlying technologies that are driving the information revolution are now directly applicable to the intelligence business. Examples of commercial applications that also support intelligence functions are:

- data warehousing and mining,
- knowledge management,
- profiling search agents,
- geographic information systems,
- imagery analysis and pattern recognition,
- statistical data analysis tools,
- language translation,

- targeted information systems,
- mobile computing, and
- secure computing. **5**

Moreover, information security (INFOSEC), a critical enabling technology for all intelligence information systems, is now a mainstream area of research and innovation in the commercial world, due in no small part to the exponential growth in Internet e-commerce. Thus, there are a number of commercially available security technologies:

- strong encryption,
- secure community of interests,
- authentication and access control,
- auditing and reporting,
- data integrity,
- digital signatures,
- centralized security administration,
- remote or traveling users, and
- unitary login.

It is, no doubt, the case that the commercial investments flowing into information security outpace the spending made by the Intelligence Community. Thus, In-Q-Tel will be poised to leverage the investments of others to the benefit of the Agency. Having bounded In-Q-Tel's IT space with these two criteria -- unclassified work with commercial potential -- the Agency defined a set of strategic problem areas for the Corporation.

- **Information Security**: hardening, and intrusion detection, monitoring and profiling of information use and misuse, and network and data protection.
- **Use of the Internet**: secure receipt of information, non-observable surfing, authentication, content verification, and hacker resistance.
- **Distributed Architectures**: methods to interface with custom or legacy systems, mechanisms to allow dissimilar applications to interact, automatic handling of archived data, and connectivity across a wide range of environments.
- **Knowledge Generation**: geospatial and multimedia data fusion or integration, and computer forensics.

These four areas have the added and obvious benefit of spanning the needs of all the Agency's directorates and, hence, its core business functions of collection and analysis.

The IT space that In-Q-Tel will occupy for the Agency will no doubt raise questions with some who will believe that it or the Agency have other motives. It is, therefore, important to highlight what In-Q-Tel is not

and what it will not do. First, it is not a front company for the Agency to conduct any activities other than those spelled out in its Articles of Incorporation and its Charter Agreement. As a nonprofit -- 501(c)3 -- corporation, it will operate in full compliance with the Internal Revenue Service (IRS) regulations and, as with all similar non-profits, its IRS filing will be a matter public record.

In-Q-Tel is openly affiliated with the Agency, as was made obvious to the world during its press rollout on 29 September 1999. Of equal importance, it will not initiate work in areas that lead to solutions that are put in so-called "black boxes" -- that is, innovations that the government subsequently classifies. To do so would undercut In-Q-Tel's credibility with its business partners to the detriment of the Agency.

Finally, In-Q-Tel is a solutions company, not a product company. Working through its business partners, it will demonstrate solutions to Agency problems but will not generate products for use by Agency components. In-Q-Tel-inspired products will be developed through separate contractual arrangements involving Agency components and other vendors.

[Top of Page]

In-Q-Tel's Structure and Staffing

Central to the In-Q-Tel business model are speed, agility, market positioning, and leveraging. These attributes, taken together, have helped shape the evolving structure of the Corporation. It is one that intends to emphasize the "virtual" nature of the Corporation while minimizing "brick and mortar" costs -- i.e., it will operate by facilitating data sharing, and decisionmaking via seamless communications using a private network with broadband connectivity to the Agency and its partners, while limiting direct infrastructure investments in laboratories and related facilities by leveraging the facilities of others. To facilitate this intent, the In-Q-Tel Board and CEO decided to hire a small staff composed of people with strong technical and business skills. At present, the Corporation has about ten staff employees and, it is expected that, by the end of the year 2000, the total will number about 30. The CEO is currently designing In-Q-Tel's management structure, but the parameters he has set for it indicate that it will be very flat and aligned for rapid decision-making.

[Top of Page]

Execution: How Will it Work?

One of the great leaps of faith the Agency took in this venture was to recognize, early on, that private sector businessmen were better equipped than it was to design the Corporation and create its work program. The Agency's critical role was to develop the initial concept, help form the best Board possible, give In-Q-Tel a challenging problem set, and then design a contractual vehicle that gave the Corporation the necessary degrees of freedom to design itself and operate in the market place. All of this was accomplished in less than a year, to include the design of In-Q-Tel's initial work program. In-Q-Tel's current work program is built on a process of discrete, yet overlapping, elements -- IT roadmapping, IT baselining, and R&D projects.

The underlying philosophy now driving the In-Q-Tel program is to gain an understanding of the many players occupying In-Q-Tel's IT space -- by roadmap analysis -- and, concurrently, test and validate the

performance and utility of existing products and technologies -- by baseline testing -- against current Agency needs. If the test results are successful, the Agency has the option of quickly purchasing the products directly from the vendor. However, in those cases in which there are no existing products or technologies, or where a gap exists between the baseline test results and the Agency's needs, In-Q-Tel will launch R&D projects. In this way, the Agency obtains near-term solutions through the evaluation of those products considered "best-in-class" and can target its R&D projects more precisely -- that is, to where commercial or other government IT investments are small or nonexistent.

With its first year budget of about $28 million, In-Q-Tel has focused its initial efforts on the IT roadmap and baseline elements of the program. The roadmap project seeks, first, to identify those in industry, government, and academia who occupy the same IT space as In-Q-Tel and, secondarily, to spot existing technologies of potential interest. The results will also help In-Q-Tel leverage the technical advances made by others, assess the overall direction and pace of research, avoid duplicating work done by other government entities, and highlight potential business partners. The roadmap will be updated and refined by In-Q-Tel throughout the life of its work program.

Two teams -- called "incubators" -- which collectively include about 20 companies, are executing the baseline-testing element of the In-Q-Tel work program. They were selected by an independent review panel of national IT experts convened by In-Q-Tel to evaluate multiple proposals. Each of the two teams is working on one or more incubator concepts derived by In-Q-Tel from the Agency problem set enumerated above. The incubator teams will operate for over a year. As the In-Q-Tel work program grows, it is possible that other baseline incubator teams will be established.

The R&D part of the program, which In-Q-Tel manages, will soon become the core of its activities, with a growing percentage of its funds directed towards a portfolio of research projects. In-Q-Tel is formulating its research thrusts based on the information and test results gathered under the roadmap and baseline work, aided by extensive interactions with the private sector and the Agency. The design of the research projects will be set by In-Q-Tel and will vary to meet the mutual interests of the Agency, In-Q-Tel, and its prospective business partners. As mentioned earlier, In-Q-Tel will draw from a broad range of R&D competition models to attract the business partners it seeks. In some cases, it may assemble teams of companies that each has a necessary part, but not the whole, of the solution In-Q-Tel seeks. In other projects In-Q-Tel might be a co-investor in a fledgling company with another business partner such as a venture capital firm. Or, it could take a more traditional route, using a request for proposal. In essence, In-Q-Tel will use whatever model most efficiently and effectively meets the needs of all parties to a transaction, with a constant eye towards leveraging its resources and solving the Agency's IT needs.

Common to most or all of the R&D agreements that In-Q-Tel intends to use will be the subject of intellectual property (IP), or more precisely said, the ownership of IP and the allocation of IP generated revenues. In the area of IT R&D, a deal is typically not struck until all of the parties' IP rights are clearly established. In-Q-Tel's acceptance within the IT market place depends heavily on its ability to negotiate industry standard IP terms. Recognizing this, the Agency agreement with In-Q-Tel allows it and/or its partners to retain title to the innovations created and freely negotiate the allocation of IP derived revenues. The only major stipulation is that the Agency retain traditional "government purpose rights" to the innovations. **6**

[Top of Page]

A New Contract Model

Before the partnership between In-Q-Tel and the Agency became a reality, the Agency had to develop a new

contract vehicle that granted the Corporation the degrees of freedom it needed to operate in the market place. **7** Most Agency contracts, including those in R&D, are based on the Federal Acquisition Regulations (FAR). However, the FAR is often viewed by industry as overly burdensome and inflexible. And, it has been the Department of Defense's (DOD) experience that smaller companies often will not contract with the government because of the extra costs they would incur to be FAR-compliant. Because the Agency wanted to encourage such companies to work with In-Q-Tel, it took a different approach and designed a non-FAR agreement with the Corporation. It adopted elements from a DARPA model based on "Other Transactions (OT)" authority granted to the DOD by Congress. **8** OT agreements permit authorized government agencies to design R&D agreements outside the FAR.

The hoped for result is to spur greater flexibility and innovation for the government. In addition, it permits well-managed businesses, large and small, to perform R&D for the government, using their existing business practices and procedures. Using a DARPA model OT agreement as a guide, the Agency designed a five-year Charter Agreement that describes the broad framework for its relationship with In-Q-Tel, sets forth general policies, and establishes the terms and conditions that will apply to future contracts. In addition, a short-term funding contract was negotiated that includes In-Q-Tel's "Description of Work". Together these documents define the metes and bounds of the Agency's relationship with In-Q-Tel and permit In-Q-Tel to negotiate agreements with its partners, absent most government flow down requirements.

[Top of Page]

Future Challenges

The In-Q-Tel venture is one that has challenged the Agency to think creatively and quickly to address the fundamental changes that the information revolution is having on its core business. It responded by setting aside traditional policies and practices in many areas and established a new partnership with industry and academia, based on shared interest and mutual benefit. But, one cannot ignore that this venture involves risk, both for the Agency and In-Q-Tel. From the Agency's perspective there are three major areas that will require constant attention: managing its relationship with In-Q-Tel, solution transfer, and security.

Perhaps the most important of the three is the first, managing the relationship without stifling In-Q-Tel's competitive edge. In-Q-Tel is a small independent corporation established to improve the mission performance of a much larger government agency. The imperatives that led to In-Q-Tel have many parallels in industry. In fact, the IT sector is replete with examples of a large corporation seeking to improve its competitiveness by either purchasing a small start-up company or forming a subsidiary. The parent corporation sees in its offspring traits that it no longer possesses -- speed, agility, and expertise. But, for these traits to be realized, the start-up must operate unencumbered from the parent corporation, whose natural tendency is to rein in and control it. Similarly, the Agency will have to restrain its natural inclination to micromanage In-Q-Tel and, instead, allow the Corporation the freedom to prosper. It must have continuous insight into In-Q-Tel's activities, but must understand that In-Q-Tel is responsible for its own operations, including the design and management of the work program.

Acceptance by Agency components of In-Q-Tel inspired solutions will be the most important measure of success in this venture. It is also likely to be the hardest. While there is every expectation that In-Q-Tel will become commercially successful and seed innovative solutions, if they are not accepted and used by Agency line managers, then the overall venture will be judged a failure. Although In-Q-Tel has a critical role in the solution transfer process, the burden rests with the Agency, since the challenges are as much managerial and cultural as they are technical. The Agency's Chief Information Officer (CIO), directorate heads, and

component directors will all have to work closely with In-Q-Tel to overcome bureaucratic inertia and identify eager recipients of the innovations that the Corporation develops. Agency "product champions" for each In-Q-Tel project should be identified early and should participate fully in its formulation, testing, and evaluation. Incentives should be considered for those Agency components that commit to projects with unique risks or that require extensive personnel commitments. These and other strategies will be employed to ensure that the return on the Agency's investment in In-Q-Tel translates into measurable improvements in its mission performance.

The open affiliation between the CIA and In-Q-Tel is yet another unique aspect and challenge for this venture. Although the Corporation will be doing only unclassified work for the Agency, the nature of its IT research and its association with a US intelligence agency will undoubtedly attract the interests of foreign persons, some with questionable motives. The obvious security ramifications of this scenario were well considered in the decisionmaking process that led to In-Q-Tel's formation. It was ultimately decided that the risks are manageable and, in many ways, are similar to those faced by any high-tech company trying to protect its IP and trade secrets. In-Q-Tel and the Agency will be working closely to ensure that the Corporation operates with a high degree of security awareness and support.

In-Q-Tel has a critical role in meeting these three challenges. However, it's most persistent challenge will be developing and sustaining a reputation as a business that sponsors leading edge research and produces discoveries that can be profitably commercialized. Once it has established a record of accomplishment in these two areas, the high caliber IT talent the Agency hopes to reach through In-Q-Tel will be drawn to the Corporation.

[Top of Page]

The Road Ahead

Those of us at the Agency who helped to create In-Q-Tel are endlessly optimistic about its prospects for success. The early indicators are all positive. Among them is the caliber of the people who stand behind and lead the Corporation and the initial reaction from industry and the trade press to its formation. In-Q-Tel's Board of Trustees is at least the equal of any large corporation's board. **9** They are committed to the Agency's mission, the new R&D model that In-Q-Tel represents, and have invested much of their time to its formation. The Agency and the nation are in their debt. The Board also recruited an outstanding CEO who brings with him the experiences and contacts of his Silicon Valley base and an established reputation for starting and growing new IT companies. **10**

The favorable press coverage of In-Q-Tel combined with the industry "buzz" engendered by the Board and CEO have brought a flood of inquiries by those interested in doing business with the Corporation. And, most importantly, its work program is already beginning to achieve results that the Agency can use and that its partners can commercialize. Judging by the record to date, the road ahead appears promising. But, In-Q-Tel's fate also rests in part on those institutions charged with oversight of the Agency and its budget.

Congress is to be congratulated for its support to the Agency as it launched this new venture. Congress seeded the venture with start-up funding when it was still in its conceptual phase, but asked hard questions of the Agency throughout the design and formation of In-Q-Tel. Members understood that starting an enterprise such as In-Q-Tel is not risk free. As with all R&D efforts in government and industry, there will be some home run successes but also some failures. That is the price the Agency must be prepared to pay if it wants to stay on the leading edge of the IT revolution. With In-Q-Tel's help plus the continued support of Congress and OMB, as well as from the traditional Agency contractor community and others, an "e-CIA" of

the next century will evolve quickly, to the benefit of the President and the national security community.

[Top of Page]

Notes

1. In-Q-It Press Release, 29 September 1999.

2. " Drug Cartels Hold Tech Advantage", *Washington Post*, (November 15, 1999). The article alleges that certain cartels are making sophisticated use of the Internet to communicate securely and protect their operations.

3. For the next year or two, In-Q-Tel will accept work only from the CIA. All solutions that it provides to the CIA will be made available to the entire Intelligence Community.

4. Codified in a five-year Charter Agreement with the CIA and a one-year funding contract that is renewable annually.

5. "Information Technology Trends and Their Impact on CIA". An unclassified report issued January 1999 by the Agency's Chief Information Officer.

6. As stipulated in the Charter Agreement, "...the Federal Government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world for Government purposes."

7. The Agency component that has day-to-day responsibility for guiding the CIA's relationship with In-Q-Tel, including the design and implementation of the contract and the problem set, is the In-Q-Tel Interface Center (QIC) which resides in the Directorate of Science and Technology.

8. Title 10 U.S.C. 2371. Also see, "Other Transactions are FAR Out!", *National Contract Management Journal*, Vol. 29, Issue 2 (1999).

9. In-Q-Tel Board of Trustees: Lee Ault, Chairman, former Chairman and CEO of Telecredit, Inc; Norman Augustine, former Chairman and CEO of Lockheed Martin Corporation; John Seely Brown, Chief Scientist, Xerox Corporation and President, Xerox PARC Research Center; Michael Crow, Executive Vice Provost of Columbia University; Stephen Friedman, Senior Principal of Marsh & McLennan Capital, Inc., and former Chairman of Goldman Sachs and Co; Paul Kaminski, President and CEO of Technovations, Inc., Senior Partner in Global Technology Partners, and former Undersecretary of Defense for Acquisition and Technology; Jeong Kim, President of Carrier Network, part of the Lucent Technologies Group, and former founder of Yurie Systems; John McMahon, consultant to Lockheed-Martin Corporation, former President and CEO of Lockheed Missile and Space Company, and former Deputy Director of Central Intelligence; Alex Mandl, Chairman and CEO of Teligent and former President and CEO of AT&T; William Perry, Former Secretary of Defense and currently Berberian Professor at Stanford University.

10. Gilman Louie, CEO of In-Q-Tel, most recently was Hasboro Interactive's Chief Creative Officer and General Manager of the Games.com group, responsible for creating Hasboro's Internet game site. He previously served as Chairman of the Board of MicroPose, CEO and Chairman of Spectrum Holobyte, and CEO of Sphere Inc. He is on the Boards of Directors of numerous software firms.

[Top of Page]

Author Biography

Rick E. Yannuzzi was Senior Deputy National Intelligence Officer for Strategic and Nuclear Programs in the National Intelligence Council (NIC). He previously was a member of the CIA's Enterprise -- i.e., In-Q-Tel -- Start-Up Team and served as its first Director of Business Operations. Mr. Yannuzzi also served as the DCI's Executive Secretary, DCI Representative to the White House Science Office, and held a variety of analytic and managerial positions in the CIA dealing with proliferation and foreign weapons and scientific issues. Mr. Yannuzzi received a Bachelor of Science in Physics from the University of Bridgeport and a law degree from the Georgetown University Law Center.

* The views in this article are those of the author and do not reflect the official policy or position of the Central Intelligence Agency, the Intelligence Community, or the US Government.

[Top of Page]

Copyright Notice

ISSN 1061-6845