Accelerating the Acquisition and Implementation of New Technologies for Intelligence:

The Report of the Independent Panel on the Central Intelligence Agency In-Q-Tel Venture

Business Executives for National Security

June 2001

Table of Contents

Preface

The Report that follows summarizes the results of the assessment conducted by the Independent Panel on the Central Intelligence Agency In-Q-Tel Venture during the period of January to June 2001. The assessment was required by a Congressionally Directed Action (CDA) contained in FY 2000 Conference Committee markup language. The effort was supported and orchestrated by Business Executives for National Security (BENS) and constitutes a broad assessment of In-Q-Tel's strategy, structure, processes, technologies and legal foundation. The approach to the assessment was driven by the CDA's requirement of "an independent cost versus benefits assessment", as well as additional direction and questions posed during interaction on the terms of reference for the study with the House and Senate Intelligence Committees.

The Panel consisted of 30 members, all from the private sector, selected from industries including high technology, venture capital, investment banking, information services and law. Several members of the Panel had previous experience in the Intelligence Community and the Military.

I would note for the record that several members of this Panel from a variety of industry sectors approached this assessment process with what I would describe as an initial reaction of skepticism and concern about the basic In-Q-Tel business model from a policy, legal and competitive perspective. Why should the US Government form a corporate nonprofit taxpayer funded entity to "compete" with private sector venture capital and investment banking organizations? What is wrong with existing government technology procurement processes and why do we need to experiment with something that doesn't follow traditional approaches? Why can't the Central Intelligence Agency (CIA) and other components of the Intelligence Community get adequate access to the benefits of dealing with the significant number of highly innovative small to medium scale technology companies in the US by just approaching them directly? Does a model, which has never been tested, have any reasonable prospect of succeeding? Finally, how can this possibly be legal? We haven't seen anything like this before. Indeed, In-Q-Tel could be viewed as a direct competitor to several of the organizations whose executives reviewed it during this study.

These were the issues we wrestled with and there were moments of highly energetic debate on each of them. The Panel members agreed to approach these issues based on a combination of their business logic and the logic of national security and taxpayer responsibility, and to temporarily set aside their initial biases. I am hopeful that the readers of this Report, the Congress, the Administration, the CIA and In-Q-Tel, as well as the other members of the Intelligence Community and the general public, who as taxpayers have paid for this activity, will also approach it with an open mind.

The Panel's conclusions, findings and recommendations, which were ably supported by BENS' leadership and staff, as well as consultants from Grant Thornton LLP and the RAND Corporation, represent the independent views of the Panel, not necessarily of CIA, In-Q-Tel or the Congressional Committees that requested the review. The Report went through both legal review and security review by CIA at the request of the Panel Chairman.

C. Lawrence Meador
Chairman
The Independent Panel on the Central Intelligence Agency In-Q-Tel Venture

Summary of Key Findings and Recommendations

Key Findings

- The In-Q-Tel business model makes sense and its progress to date is impressive for a two-year-old venture;
- The process for implementing new technology into the CIA's business processes is a key challenge to In-Q-Tel's success;
- Improved access of In-Q-Tel to key stakeholders and subject matter experts in the CIA is essential;
- A set of shared performance measures (business metrics) needs to be created; and
- The model needs to mature: the Panel does not at this time recommend expanding In-Q-Tel's customer base beyond the CIA.

Recommendations

The Business Model

- In-Q-Tel's potential advantage to the CIA outweighs the risk. In-Q-Tel should continue as the CIA's entrepreneurial and innovative venture facilitating the delivery of new technology to the CIA.

Operational Aspects

- The CIA should continue to streamline and simplify its process of introducing new products into its overall IT architecture.

- There must be shared responsibility for solution transfer of In-Q-Tel technology into the CIA. The CIA leadership, through the In-Q-Tel Interface Center (QIC), must put more focus on delivery and dissemination of In-Q-Tel's technology to the customers.

- QIC should identify and connect In-Q-Tel personnel with key stakeholders and subject matter experts. Furthermore, QIC should more aggressively "market" In-Q-Tel capabilities within the Agency.

- The Director of Central Intelligence (DCI) must make the CIA leadership accountable for encouraging and nurturing a cultural change that accepts solutions from the "outside world." The CIA needs to develop and communicate a shared vision statement for the future of technology as the enabler to successfully perform the CIA's mission.

- The DCI should take action to ensure that a position in the QIC is viewed as career enhancing. The staff should also be senior enough to act on behalf of their respective organizational sponsors.

- CIA and In-Q-Tel should form an Intelligence Technology Oversight Panel to facilitate communication between the two organizations. The Panel should be chaired by the Executive Director and include the Chief Scientist, the Deputy Directors, the Assistant Directors of Central Intelligence, and the Chief Information Officer.

- The DCI and the Executive Director of the CIA should revisit the question of the In-Q-Tel Interface Center's proper reporting relationship within the Intelligence Community no later than July 2004 at the end of the current charter agreement.

Technology Issues

- The CIA should immediately assess how well its information technology strategy is aligned with its business strategy including all elements of mission, goals, objectives, and critical success factors. This should be translated into an IT strategic action plan to direct In-Q-Tel and other IT acquisition processes.

Intellectual Property Rights

- In-Q-Tel should proceed immediately to implement a program to assure protection of its own intellectual property rights in situations where its own employees may invent or create protectable works. This program should be developed by the General Counsel of In-Q-Tel and communicated to employees as soon as practical.

In-Q-Tel's Future

- In-Q-Tel must update its performance metrics, making them specific to its mission and goals and shared by all stakeholders. The Panel recommends In-Q-Tel measure itself by its ability to accelerate technology insertion into the CIA, transfer solutions to the point of implementation, and establish financial progress toward self-sustaining operations.

- In-Q-Tel should not expand its mission beyond the CIA until it is deemed to be a success in its CIA mission. However, solutions that solve a similar problem in another government organization—particularly in the Intelligence Community—should be shared. Elements of the In-Q-Tel business model may be exportable. Other government organizations must make their case for adopting key In-Q-Tel concepts to support their mission delivery.

- The DCI, QIC and the In-Q-Tel Board of Trustees should begin planning now for changes that may be required in the annual contract and governance of In-Q-Tel in the event significant success occurs.

- Except for required audits and oversight, In-Q-Tel should be allowed to complete its initial business cycle without additional reviews. A full business case assessment should be required at the end of the charter agreement July 2004.

Executive Summary

In-Q-Tel Incorporated

By early 1999, the Central Intelligence Agency (CIA or Agency) recognized it was no longer the technology leader it had been when it developed the U-2, SR-71, and CORONA reconnaissance programs in the 1950's and 1960's. Its systems were struggling to manage the rapidly increasing torrent of information being collected. Facing the reality that the private sector—not government—was pacing the information technology (IT) revolution, the CIA proposed, with Congressional approval, a brand new entity—In-Q-Tel. Founded by a group of private citizens led by Norman Augustine at the request of the Director of Central Intelligence (DCI), this external, nonprofit enterprise would be electronically connected to leading researchers throughout the country, speed the insertion of mature technologies, support rapid development of mission critical applications, and enhance the CIA's ability to attract the skills and expertise vital to its success.

Since In-Q-Tel's incorporation in February 1999, Congress has posed a number of questions. Most recently, the conference committee preparing the FY 2000 Intelligence Authorization Act directed the CIA to arrange for an "independent cost versus benefit assessment…to determine the success or failure of this experiment." The report that follows is the result of that assessment.

In-Q-Tel Achieves Significant Early Progress

The Panel applauds the CIA and Congressional leadership for breaking with tradition and demonstrating the willingness to take a risk when attacking a technological challenge. Members of the Panel believe that creating a model like In-Q-Tel makes good business sense. Moreover, the Panel concludes that the risk associated with such a venture is worth taking, from a taxpayer perspective, considering the technology access that could be overlooked—or denied.

It is unrealistic to expect such a venture to have produced strategic change at this point, but In-Q-Tel has achieved significant early progress. To date, In-Q-Tel has reviewed hundreds of business plans, made more than a dozen investments, brought five technologies and services to the Agency for use or demonstration, and has implemented three pilots since its charter was signed in July 1999. By private sector standards, this represents a noteworthy accomplishment and the start of a good track record.

To take the venture to the next level, the Panel identifies some areas of improvement and makes fourteen recommendations to refine the process. A follow-on review and analysis should be done only after In-Q-Tel has had sufficient time to demonstrate the technology solution processes now being tested. A reasonable and appropriate time would be when the original charter agreement expires in July 2004.

Key Findings

The Panel finds:

- **The In-Q-Tel business model makes sense and its progress to date is impressive for a two-year-old venture**. In-Q-Tel should continue to serve as the CIA's "technology accelerator"—an entrepreneurial and innovative venture facilitating the delivery of new technology to the CIA;

- **The process for implementing new technology to the CIA's business processes is a key challenge to In-Q-Tel's success**. Transfer of solutions from In-Q-Tel into the CIA will be the foremost determinant of success of this model, yet the current process is beset with institutional and security challenges that are formidable and real;

- **Improved access of In-Q-Tel to key stakeholders and subject matter experts in the CIA is essential**. Such access, however, is complicated by the collision of the "outside" world with the real need to guarantee security of national intelligence information. In-Q-Tel needs to be better "marketed" within the Agency to raise awareness of the need for engaging the private IT sector. The In-Q-Tel Interface Center (QIC) should concentrate on improving the dialogue between In-Q-Tel and its CIA customers;

- **A set of shared performance measures (business metrics) needs to be created**. Various metrics exist; however, they have yet to be appreciated, understood and accepted by all stakeholders; and

- **The model needs to mature**. The Panel does not at this time recommend expanding In-Q-Tel's customer base beyond the CIA. However, elements of the business model may very well be exportable to other organizations. Interested government organizations should carefully explore their own needs and authorities before developing similar ventures.

Assessment

The Panel made assessments in six functional areas:

- Appropriateness of **the business model**;
- Day-to-day **operational aspects** of the model;
- Examination and development of **technology issues**;
- Adequacy of **legal formation** and disposition of **intellectual property rights**;
- Discharge of **financial considerations**; and
- The organization's **future challenges**.

The Business Model

In-Q-Tel has been mischaracterized as a private venture capital firm. More precisely, the Panel found that In-Q-Tel is an evolving blend of various business, nonprofit, and government research

and development (R&D) models. It is most analogous to a corporate strategic venture capital entity—like those maintained by major technology firms. It seeks enhanced innovation, earlier discovery of relevant technologies, and more direct information on market developments.

Like a government R&D organization, In-Q-Tel has only one customer (the CIA) for its development activities. However, as a private entity, In-Q-Tel enjoys the following advantages. In-Q-Tel:

- Can make equity investments;
- Has fewer bureaucratic constraints;
- Is not required to comply with the Federal Acquisition Regulations (FAR) requirements;
- Can obligate funds in multi-year increments, i.e., "no year" money;
- Is not restricted by civil service personnel policies;
- Engages only in unclassified projects;
- Has the cachet of being associated with the CIA; and
- Has a flexible deal structure modeled after commercial contractual/investment vehicles.

Unlike a true venture capital model, In-Q-Tel is more aptly described as a "technology accelerator," seeking speed and agility in discovering innovative IT solutions for the Agency. In-Q-Tel differs from private venture capital models in the following ways. In-Q-Tel:

- Places its value proposition on obtaining IT solutions, not foremost on return on equity or asset;
- Deals always result in a product or service (e.g. feasibility assessment, test product or prototype);
- Investments are more likely to provide value to the portfolio companies beyond cash:
  - Investment is "smart money" in its portfolio companies; that is, In-Q-Tel provides portfolio companies with intellectual capital, technology-related experience and the Agency as a potential test-bed; and
- Due diligence process is more strict:
  - In-depth investigation into the company's structure and financial status as well as the ability of the proposed technology to meet the Agency problem domain is completely evaluated before forming a contract.

By private sector standards, In-Q-Tel has produced noteworthy results and continues to show promise for the future.

- In-Q-Tel has evaluated over 750 work plans and determined that 23 projects meet its criteria for work products/investments; and
- Five technologies and services are available for use or demonstration in the Agency and three pilots have been implemented:
  - Presidential Information Dissemination System (PIDS): an electronic briefing tool used for the president-elect during the transition. It provides advanced search capabilities and "real-time intelligence" to the briefer;
  - Latent Semantic Indexing (LSI): an application that finds documents "similar to" other information without having to precisely specify parameters or data points; and
  - Link analysis technology used to sort and compare recurring personnel data.

Interviews with In-Q-Tel's portfolio companies revealed that In-Q-Tel had indeed succeeded in doing business with companies who would not have considered contracting with the government due to the tedious procurement process, reporting requirements and regulations. By doing so, In-Q-Tel potentially benefits the CIA by plugging into unconventional and previously untapped sources of innovation and technology.

Recommendation: In-Q-Tel's potential advantage to the CIA outweighs the risk. In-Q-Tel should continue as the CIA's entrepreneurial and innovative venture facilitating the delivery of new technology to the CIA.

Operational Aspects

The Panel found that In-Q-Tel is positioned to deliver technology innovation to the CIA. It is not clear, however, that the CIA has a timely and efficient process to "insert" that technology into the Agency's IT architecture. Most stakeholders feel they can only declare In-Q-Tel a success if the technology it introduces improves the ability of CIA analysts and clandestine officers to carry out intelligence tasking, collection, processing, exploitation, and dissemination. The Panel finds the thinly tested solution transfer process a major challenge to In-Q-Tel's future success, putting it in the untenable position of being evaluated by a process over which it has no control.

The current structure for integrating new IT into the Agency seems extremely complicated and time consuming:

- Security considerations affect the entire life cycle for IT in the Agency. In-Q-Tel's business model (i.e., operating in an "open" environment where the client is known) creates challenges within the established CIA security framework; and
- Up to six formal boards with multiple levels of review must be completed before any technology is integrated into the Agency IT architecture.

Recommendation: The CIA should continue to streamline and simplify its process of introducing new products into its overall IT architecture.

Recommendation: There must be shared responsibility for solution transfer of In-Q-Tel technology into the CIA. The CIA leadership, through the In-Q-Tel Interface Center (QIC), must put more focus on delivery and dissemination of In-Q-Tel's technology to the customers.

The extensive interviews of current and potential In-Q-Tel customers inside the CIA convinced the Panel that In-Q-Tel's purpose, form and mission are unevenly appreciated and understood by all parties who could benefit from its work:

- Throughout the CIA organization, there is no clear and uniform understanding of In-Q-Tel's capabilities; and

- Little awareness exists of In-Q-Tel activities in the Agency at large; analysts learn more about In-Q-Tel by reading media reports than from internal "marketing" on what In-Q-Tel technologies might do for them.

The QIC is expected to provide the interface between In-Q-Tel and its consumers. However, the Panel finds that the QIC is more involved with oversight of In-Q-Tel's activities than facilitating access to potential Agency technology users.

Recommendation: QIC should identify and connect In-Q-Tel personnel with key stakeholders and subject matter experts. Furthermore, QIC should more aggressively "market" In-Q-Tel capabilities within the Agency.

As a corollary to better marketing In-Q-Tel's capabilities within the Agency, success hinges on eventual change in culture and overcoming the "not invented here" syndrome in introducing new projects. Today:

- In-Q-Tel's budget is viewed as a burden across the entire Agency, thus giving rise to expectations and the serious questioning of alternative use of scarce resources; and
- In-Q-Tel's model for steering technology development prior to commercialization is new to the Agency. Yet it is crucial for the CIA to adapt to this cultural change if it hopes to harness and implement constantly evolving commercial innovations.

Recommendation: The DCI must make the CIA leadership accountable for encouraging and nurturing a cultural change that accepts solutions from the "outside world." The CIA needs to develop and communicate a shared vision statement for the future of technology as the enabler to successfully perform the CIA's mission.

The Panel finds that the QIC is a critical component for In-Q-Tel's future success and improvements are needed in its structure and staffing. The current QIC staff has done a commendable job of helping In-Q-Tel grow and establishing the groundwork for its success. Ideally, the QIC would be staffed with employees knowledgeable both in IT and the operational needs of one or more of the CIA's lines of business, analysis or clandestine operations.

Recommendation: The DCI should take action to ensure that a position in the QIC is viewed as career enhancing. The staff should also be senior enough to act on behalf of their respective organizational sponsors.

In-Q-Tel and the CIA are in an important and necessary learning process during this experiment. There exists a need for a reliable and improved communications linkage between In-Q-Tel and its critical user communities in the CIA as well as an effective connection between In-Q-Tel and the senior executive leadership of the CIA. These connections will enable the CIA to represent its

broad vision of the Agency's role in the Intelligence Community and inform In-Q-Tel on the best ways to hunt for, acquire and transfer the most appropriate technologies to support the vision.

The Panel believes this can best be accomplished by establishing an In-Q-Tel Intelligence Technology Oversight Panel that would at minimum include a representative combination of the senior executives at the CIA who care about focusing In-Q-Tel on the technologies that really matter for the Agency.

Recommendation: The CIA and In-Q-Tel should form an Intelligence Technology Oversight Panel to facilitate communication between the two organizations. The Panel should be chaired by the Executive Director and include the Chief Scientist, the Deputy Directors, the Assistant Directors of Central Intelligence, and the Chief Information Officer.

The Panel gave extensive consideration and discussion to the question of In-Q-Tel/QIC's positioning in the Agency as well as within the overall Intelligence Community. QIC is currently housed within the Directorate of Science and Technology (DS&T) where it was born, nurtured, and directed from an Agency perspective for its first two years of life. The DS&T has done a commendable job of providing leadership and a framework for implementation of the fundamental concepts driving In-Q-Tel/QIC. A majority of the Panel concluded that QIC should stay where it is for the moment.

However, some members of the Panel believe that the IT component of In-Q-Tel/QIC's mission is the most critical success factor for the CIA over the next several years and that it might benefit from reorganizing QIC to report to the Agency's Chief Information Officer after the recent restructuring led by the Executive Director. Indeed some Panel members believed that the In-Q-Tel promise is so great that QIC should report even higher up in the Agency, to the Executive Director or even the Director of Central Intelligence. The Panel's final conclusion is that the structure should not be changed at this moment but that the Agency should take up this question again when the next assessment is conducted.

Recommendation: The Director of Central Intelligence and the Executive Director of the CIA should revisit the question of the In-Q-Tel Interface Center's proper reporting relationship within the Intelligence Community no later than July 2004 at the end of the current charter agreement.

Technology Issues

The Panel commends the CIA for consolidating and articulating its IT needs for the In-Q-Tel venture. Apparently, this had never been done before. The current "Problem Set" encourages In-Q-Tel to pursue a broad range of IT but without the ability to foresee whether the targeted technology is aligned with the Agencies' future IT vision or if it will directly address a specific agency requirement. To fully inform In-Q-Tel:

- The Problem Set must remain flexible to accommodate cutting edge organizations and technologies that may be discovered by In-Q-Tel;
- Access to the Agency's end users is crucial during the identification of new technologies as well as the solution transfer process; and
- The Problem Set must be seen in the aggregate as moving the Agency towards its strategic vision and not just a collection of independent needs.

Extensive experience and research in the private sector has shown that the degree of alignment between an organization's technology strategy and its business strategy and mission will have a lot of impact on how well technology investments enable, support, facilitate and accelerate the effective implementation of the organization's business strategy. It has often been observed that poor alignment between technology and business strategy will produce unsatisfactory results.

The evidence for optimal technology and business strategy alignment between In-Q-Tel and the CIA is not obvious. More explicit work in this area needs to be undertaken to assure that the investments being committed by In-Q-Tel are as well aligned with the critical success factors and core strategies of the Agency as can reasonably be achieved. In-Q-Tel and the CIA should develop a methodology for periodically reviewing, on a quantitative basis, how well this strategy alignment is being achieved and make adjustments, as necessary, to assure an effective degree of ongoing alignment.

Recommendation: The CIA should immediately assess how well its information technology strategy is aligned with its business strategy including all elements of mission, goals, objectives, and critical success factors. This should be translated into an IT strategic action plan to direct In-Q-Tel and other IT acquisitions.

Legal Formation and Intellectual Property Rights

Although not specified in the original Congressional statement of work, questions arose during the Panel assessment about the legal basis for In-Q-Tel's formation and current operations, and whether appropriate intellectual property rights were being acquired. The Panel's inquiry into the legal background confirmed that competent and appropriate legal authority has been relied upon in the establishment of the entity and its role in the CIA's acquisition process, and that In-Q-Tel's contracting process adequately addresses the legal issues concerning intellectual property.

In-Q-Tel's legal basis is sound:

- In-Q-Tel's incorporation and status and its relationship with the CIA were analyzed by Arnold and Porter and accepted by those involved in the formation, including the CIA's General Counsel;
- The special authority in Section 8 of the CIA Act of 1949 applies to the CIA's relationship with In-Q-Tel, enabling the CIA to obtain certain procurement options outside the Federal Acquisition Regulation (FAR) through In-Q-Tel;
- The Agency maintains competition wherever practical;

- The Agency determines the acquisition strategy on a case-by-case basis; and
- In-Q-Tel's outreach is extensive.

In-Q-Tel aggressively uses its options and authorities to seek and negotiate the most favorable deals for the government. It explicitly considers intellectual property rights when negotiating deals with portfolio companies; however, it does so using a different process than the typical federal acquisition process. The flow down requirements of the FAR would inhibit In-Q-Tel's ability to attract many commercial entities into business relationships:

- In-Q-Tel tries to negotiate its contracts to include provisions that enable intellectual property flow down to other potential government users; however, if companies resist, In-Q-Tel needs flexibility to replace government flow down rights with other arrangements such as the use of warrants or licenses; and
- When appropriate and necessary to close a deal, the Agency's chief procurement officer may waive certain government data rights and replace them with Agency-only use rights.

A key element of In-Q-Tel's public trust has to do with fair and balanced management of the intellectual property legal strategy associated with the diverse set of organizational relationships and investments it makes with taxpayer dollars.

Recommendation: In-Q-Tel should proceed immediately to implement a program to assure protection of its own intellectual property rights in situations where its own employees may invent or create protectable works. This program should be developed by the General Counsel of In-Q-Tel and communicated to employees as soon as practical.

Financial Considerations

The Panel did not independently examine In-Q-Tel's financial controls. In-Q-Tel had recently undergone a Financial and Managerial Controls Audit by the CIA's Office of the Inspector General (IG), and a Financial Statement Audit by PricewaterhouseCoopers LLP for the period of its inception through March 31, 2001. Both organizations found the financial controls and statements to be in conformance with generally accepted accounting principles. Therefore, the Panel deemed the financial information provided by In-Q-Tel to be reliable.

The IG stated that In-Q-Tel's accounting system was "well designed and operating effectively to provide management with accurate and reliable financial and accounting data":

- Cash and investment accounts reconcile with accounting records; and
- Current asset accounts did not disclose any material errors or omissions.

Of the $62.7 million obligated by CIA to In-Q-Tel through March 31, 2001, In-Q-Tel has almost $11.57 million available for future investments. According to In-Q-Tel's FY 2001 fourth quarter report (audited), In-Q-Tel recognized approximately $30.1 million in mission delivery (programs, pilots, etc.), $2.5 million in start-up costs, and $10.1 million in recurring General and Administrative (G&A) costs from inception through March 31, 2001. Additionally, In-Q-Tel made $2.6

million in equity investments and incurred other expenses of $2.9 million during the same time-frame. There is another $6.2 million in open commitments.[1] As of March 31, 2001, In-Q-Tel had leveraged 2.15 dollars for every dollar spent on equity, internal R&D, and entrepreneurial funded development.

The Panel reviewed In-Q-Tel's compensation plan for its Board of Trustees and employees. The compensation plan is designed to attract and retain top talent from both the public and private sectors. Because the In-Q-Tel organization is a hybrid of different models, its compensation plan exhibits various compensation components from those models, but is primarily comparable to the financial services industry:

- Although high compared to the public sector, the compensation plan is appropriate and reasonable from a private sector perspective;
- Board of Trustee members receive cash compensation, with additional compensation for the chairman and the committee chairs. However, five of the ten Board of Trustee members have declined compensation; and
- Employees receive a base salary and annual cash bonus. Additionally, there is mandatory participation in a Long-term Incentive Compensation Fund: In-Q-Tel makes the contribution on behalf of the employee.

In-Q-Tel's Future

In-Q-Tel's evaluation and performance measures are still developing. Two sets of metrics have been developed since the corporation's creation in 1999, but neither has kept pace with the evolution of the model. As a result, there is not an agreed upon set of criteria to evaluate In-Q-Tel's performance, causing disagreement and confusion over the level of In-Q-Tel's success and progress. The Panel concluded that, although such performance metrics are key and should be a corporate priority, In-Q-Tel's "balanced scorecard" measurement tool is not currently being used because:

- The business model is dynamic;
- The evaluation criteria are not shared by all parties; and
- Congress, the CIA and In-Q-Tel all evaluate "success" differently.

Recommendation: In-Q-Tel must update its performance metrics, making them specific to its mission and goals and shared by all stakeholders. The Panel recommends In-Q-Tel measure itself by its ability to accelerate technology insertion into the CIA, transfer solutions to the point of implementation, and establish financial progress toward self-sustaining operations.

In addition, the In-Q-Tel business model continues to evolve. During the course of the assessment, the Panel detected continual progression in the way In-Q-Tel chose its investment targets, dealt with its contractors and even chose to measure its own accomplishments. The venture has produced corollary benefits for the Agency that might not otherwise have emerged:

- In-Q-Tel precipitated an Agency-wide review of the IT insertion process and the role played by the Agency's boards; and
- Apparently for the first time, IT needs statements were developed and shared across the entire Agency.

The Panel believes that the model needs to demonstrate additional maturity and success. During interviews, it became apparent that the In-Q-Tel model is also being considered by other intelligence agencies. At present, the Panel believes In-Q-Tel's customer base should remain with the CIA. However, elements of the business model may provide some advantage to other agencies and each of them should explore carefully its own requirements and authorities before establishing a similar venture.

Recommendation: In-Q-Tel should not expand its mission beyond the CIA until it is deemed to be a success in its CIA mission. However, solutions that solve a similar problem in another government organization—particularly in the Intelligence Community—should be shared. Elements of the In-Q-Tel business model may be exportable. Other government organizations must make their case for adopting key In-Q-Tel concepts to support their mission delivery.

In-Q-Tel has not seen a major return on any of its investments—yet:

- A memorandum of understanding defines the allocation rules for net proceeds resulting from investments traceable to CIA funding, with 50% going to fund In-Q-Tel projects in the current "Problem Set," and the remainder to fund strategic IT initiatives that the CIA identifies, with the following priorities: (1) initiatives benefiting the CIA, (2) initiatives benefiting the intelligence community and (3) initiatives benefiting the federal government;
- A "big win" could make In-Q-Tel self-sustaining; and
- As In-Q-Tel becomes more financially self-reliant, the CIA's control over the entity becomes less fiscal and more contractual. That is, whereas today In-Q-Tel relies on an annual appropriation from the CIA through QIC, in the future the relationship will be defined almost entirely by the provisions of the annual contract, as well as by the Board of Trustees, the Charter, and mutual mission and interests. Further control is provided by In-Q-Tel's standard project approval process, which includes review by the In-Q-Tel Review Board with QIC management serving as an advisor.

Recommendation: The DCI, QIC and the In-Q-Tel Board of Trustees should begin planning now for changes that may be required in the annual contract and governance of In-Q-Tel in the event significant success occurs.

It is not unusual for investment portfolios, especially in high technology R&D, to experience delays and losses early, while successes take more time to develop than anticipated. In the venture capital world, success or failure is measured after an average of five years after a venture has

begun. A commitment must be made by the Agency and its Congressional partners to allow In-Q-Tel to complete its initial business cycle without undue oversight reviews.

Recommendation: Except for required audits and oversight, In-Q-Tel should be allowed to complete its initial business cycle without additional reviews. A full business case assessment should be required at the end of the charter agreement, July 2004.

1

About the Assessment

Congressionally Directed Action

The Conference Committee report for the FY 2000 Intelligence Authorization Act directed the CIA to arrange for an "independent cost versus benefit assessment [of In-Q-Tel]…to determine the success or failure of this experiment." Key questions included:

Analysis of the benefits:

- Are the Agency's most critical technology issues being translated into specific and actionable technology acquisition targets for In-Q-Tel to pursue?
- Would In-Q-Tel's business model likely gain access to new technologies needed by the Agency, focusing on quality, speed and development of new business partners?
- Are the day-to-day operational aspects of the In-Q-Tel/CIA interface designed to elicit customer satisfaction, specifically focusing on impact of completed projects and plans to implement projects in development in the Agency?
- Did the creation of In-Q-Tel and the In-Q-Tel Interface Center (QIC) contribute to learning and growth in the CIA and how does In-Q-Tel play into the Director of Central Intelligence's strategic vision?

Analysis of the costs:

- What, if any, is the effect on the CIA and the government of funding this new legal entity, specifically focusing on non-traditional acquisition authorities and the government's access to intellectual property rights?
- What are the financial considerations in terms of expenditure of appropriations as well as direct personnel costs?

BENS Conducts an Independent Assessment

Business Executives for National Security (BENS), a non-partisan, nonprofit organization of business leaders who have joined to bring better business models to the nation's security, conducted the study at the request of the CIA.

BENS convened an independent panel of 30 executives, supported by a small team of BENS staff and consultants. The Panel consisted of senior executives from a variety of professional and business backgrounds including legal, venture capital, high technology, banking and investment. BENS staff teamed with professionals from the Global Government Group of Grant Thornton LLP and senior analysts from the RAND Corporation.

It was the goal of the Panel to assess current methods and the processes being developed by In-Q-Tel to introduce new technology into the Agency. Throughout, the Panel attempted to establish a common understanding of the In-Q-Tel venture so that all parties—In-Q-Tel, QIC, the CIA and the Congress—could come to a shared vision of what constitutes success for In-Q-Tel.

Assessment Methodology

Over a six-month period beginning in January 2001, the Panel reviewed technical, legal and financial documentation and conducted over 100 interviews—including In-Q-Tel, the CIA from top leadership down to its IT user community, Congress, other Agencies and the companies who are providing the technology innovations to In-Q-Tel. The assessment involved:

- Conducting thorough background research into the formation and operation of In-Q-Tel and QIC, both in document review and briefings;
- Examining previous reviews of the In-Q-Tel enterprise, including holding discussions with the staff of the House Appropriations Committee Surveys & Investigations staff which assessed In-Q-Tel, the CIA's Office of the Inspector General (IG) financial and managerial controls audit, and a financial statement audit by PricewaterhouseCoopers LLP;
- Actively assessing the In-Q-Tel enterprise through in-person interviews and observations in order to render performance and value judgments in the evaluation.

The Panel was briefed at CIA Headquarters on March 21, 2001, by senior CIA and In-Q-Tel officials on the Agency's expectations for the venture. A final meeting was held at In-Q-Tel's offices on May 31, 2001, where the Panel reviewed and approved the preliminary conclusions and recommendations.

The Panel

C. Lawrence Meador, Chairman, Clinician Support Technology *(Panel Chairman)*
W. Allen Barnett, President, Riverside Underwriting Capital, Inc.
Leonard A. Batterson, Chairman and CEO, Batterson Venture Partners
Raphael Benaroya, Chairman and CEO, United Retail Group, Inc.
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James A. Cannavino, Chairman and CEO, CyberSafe Corporation
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Marshall N. Carter, Chairman (Ret.), State Street Corp.
Howard Cox, General Partner, Greylock
James W. Down, Vice Chairman, Mercer Management Consulting, Inc.
David L. Feigenbaum, Principal, Fish and Richardson, P.C.
Arthur E. Fillmore, II, Partner, Craft Fridkin & Rhyne, LLC
Bart Friedman, Partner, Cahill, Gordon & Reindel
William Gravell, Director, Information Assurance, TRW
Daniel Greenberg, Chairman and CEO, The Greenberg Foundation
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Major General Thomas A. Wessels, USA, Vice President, Merrill Lynch
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The Organization of the Assessment Report

The report is organized by functional area. The Executive Summary briefly states the context for the assessment and summarizes the key findings, conclusions and recommendations. The main body of the report expands on the rationale for the assessment (Chapter 1) followed by a description of the evolution and goals of the In-Q-Tel concept (Chapter 2). However, the report's main focus is on six areas of investigation:

- Appropriateness of **the business model** (Chapter 3)[2];
- Day-to-day **operational aspects** of the model (Chapter 4);
- Examination and development of **technology issues** (Chapter 5);
- Adequacy of **legal formation** and disposition of **intellectual property rights** (Chapter 6);
- Discharge of **financial considerations** (Chapter 7); and
- The organization's **future challenges** (Chapter 8).

Each chapter provides the explanation and rationale for the findings, conclusions and fourteen recommendations the Panel offers to improve chances for future success of In-Q-Tel and QIC.

[2] Business proprietary information pertaining to In-Q-Tel and its investment portfolio is contained in a separately published annex not part of this report.

2 Evolution and Goals of In-Q-Tel and QIC

By 1998, the CIA's Deputy Director for Science and Technology and others in the Agency had become painfully aware that IT was transforming all aspects of modern enterprises, and that the CIA needed to respond. They realized the Agency was struggling to keep pace with change in this new digital age, where information was abundant and the communication medium was high technology. The Agency was experiencing an "IT gap" caused by the speed of change and innovation in the commercial high technology sector. The concept for the In-Q-Tel venture was born.

The CIA recognized that it needed to develop IT quickly. To do this, the leadership acknowledged that the Agency needed to tap into the private sector IT world's high energy. Furthermore, it had to attract and retain bright people knowledgeable about IT to the Agency.

During this same time frame (May 1998), the Director of Central Intelligence (DCI) launched his "Strategic Direction" initiative, which stated in part:

> "Beginning with the critical field of IT, we will pursue this [new] approach through the creation of an external nonprofit enterprise designed to be electronically connected to leading research throughout the country. This new entity will speed insertion of mature technologies, support rapid development of mission-critical applications, and enhance our ability to attract the skills and expertise vital to our success."

A small group of senior Agency officials, including the Deputy Director of Science & Technology, and referred to as the "Agency Group", were directed to develop and execute the DCI's concept.

The Agency Group, composed of senior Agency officials, including the Deputy Director of Science and Technology, was determined that the new entity had to be fast moving and agile, able to address complex and difficult Agency challenges, and be able to react quickly to new IT developments. With the assistance of a consulting firm, Arthur Andersen, and a law firm, Arnold & Porter, the Agency Group analyzed numerous models currently used in the intelligence, defense and federal communities for funding and procuring IT. The models analyzed included: Federally Funded Research and Development Centers (FFRDC) , Defense Advanced Research Projects Agency (DARPA) , and some traditional government technology procurement methods. These models were rejected for a variety of reasons, but primarily because they could not meet the fast pace and change being demonstrated by the commercial IT sector (see Chapter 3 for a model comparison).

The Best of Breed

The goal of this entity was to raise the Agency's IT competence to that of the best practices of the private sector. To determine the most appropriate model to use or develop to meet the Agency's needs, the Agency Group interviewed over 100 individuals from the Intelligence Community, Federal Government, IT industry, commercial consortia, FFRDCs and the venture capital commu-

nity. Additionally, the Agency Group researched and analyzed various models for technology development entities, including: R&D by contract, joint ventures, research corporations, incubators, corporate venture capital, consortia, existing government contractors, FFRDCs, DARPA, government-owned Contractor-operated facilities, technology labs, university/industry collaborations, new technology alliances, strategic consortia, collegial interchanges and consultancies.

In-Q-Tel is Created

The Agency Group determined that no single model offered the ideal approach to the effort the Agency envisioned. Instead, the model they proposed was a hybrid of the private sector and the CIA/government technology procurement models. It adopted attributes from various models to create an entirely new approach designed specifically to meet the Agency's needs.

Peleus, Inc. (the name was later changed to In-Q-It, Inc. and then, finally, to In-Q-Tel, Inc.) was formed in February 1999 as a nonprofit, non-stock corporation in Delaware. In-Q-Tel has since qualified as an organization exempt from federal income taxation under section 501(c)(3) of the Internal Revenue Code of 1986, as amended. The Corporation was to operate exclusively for charitable, scientific and educational purposes, and has, among its purposes, the following activities:

- Perform and promote research and related scientific endeavors in the field of IT;
- Foster collaborative arrangements that make private sector IT expertise more readily accessible to agencies of the United States; and
- Foster the development of IT that will benefit the public, private and academic sectors of the United States.[3]

In-Q-Tel set its sights high. The vision for the organization was to:

> "Invent the Agency of the future by raising its IT competence to that of the best practices of the private sector and then to explore new areas of research that equip it with capabilities that protect and advance our country's national security well into the 21st century."[4]

The original mission specified in the corporate charter agreement was "to exploit and develop new and emerging information technologies and pursue R&D that produce innovative solutions to the most difficult problems facing the CIA and Intelligence Community."[5] To accomplish this mission and vision, In-Q-Tel was designed to network extensively with those in the technology industry, the venture capital community, academia, and any others who were at the forefront of IT innovation.

Board of Trustees

In-Q-Tel's corporate bylaws provide for a Board of Trustees (Board) to oversee operations. The Board is required to meet twice a year, but has met quarterly and formed committees to carry out responsibilities. Board members have extensive experience in investment banking, the high-

[3] Certificate of Incorporation of Peleus, Inc. – February 16,1999.

[4] Charter Agreement, July 2000.

[5] Charter Agreement, July 2000. In-Q-Tel's board has agreed to accept work only from the CIA for the time being. They attempt to negotiate all solutions for the whole Intelligence Community to have a "preferred customer" status.

technology industry, academia, and the defense and intelligence communities. The Board members have three-year terms. The bylaws also permit the CEO of In-Q-Tel to attend all board and committee meetings, but not vote.

In-Q-Tel Board Members:

Lee A. Ault, III, Former Chairman and CEO, Telecredit, Inc. (Chairman)
Norman R. Augustine, Former Chairman and CEO, Lockheed Martin Corporation
John Seely Brown, Former Director, Xerox Palo Alto Research Center
Michael Crow, Executive Vice Provost and Professor of Science and Technology Policy, Columbia University
Stephen Friedman, Senior Principal, MMC Capital Inc.; Retired Chairman, Goldman Sachs & Co.
Paul G. Kaminski, Chairman and CEO, Technovation, Inc.; Senior Partner, Global Technology Partners
Jeong Kim, President, Optical Networking Group, Lucent Technologies, Inc.
Alex Mandl, ASM Investments, LLC
John N. McMahon, Former Deputy Director of Central Intelligence; Former President and CEO, Lockheed Missiles & Space Co.
Dr. William J. Perry, Professor, School of Engineering, Stanford University

In-Q-Tel Interface Center

The In-Q-Tel Interface Center (QIC) was created to provide a necessary link between the CIA and In-Q-Tel. QIC is a small group of 13 Agency employees tasked to assist In-Q-Tel in the "discovery of new IT solutions on high priority problems and their deployment and acceptance in the Agency."[6] In addition, QIC was formed to fulfill the contract stipulation between the Agency and In-Q-Tel, which states QIC "shall be responsible for overall technical, program planning and management of the work."[7] QIC plays an important role in managing operations, providing a link to the Agency, and receiving contractual documents from In-Q-Tel which include, but are not limited to, technical reports, quarterly status reports, and intellectual property reports.

Together, QIC and In-Q-Tel strive to be recognized as the Agency resource for the development and acceptance of commercially viable IT solutions that could have a substantial impact on the Agency's core mission.[8] QIC serves as the advocate for the In-Q-Tel/CIA partnership. QIC's role includes formulating the Problem Sets of the Agency's needs and finding customers within the Agency for In-Q-Tel to serve. This link is crucial for In-Q-Tel's understanding of Agency needs and improving its chances for discovering the right solutions.

QIC's role also includes educating potential inside customers about In-Q-Tel projects and their progress in finding innovative technologies in the marketplace. While stakeholders within the Agency have an idea of what technology is out there, they admittedly do not track it exhaustively.

[6] The Strategic Plan, "QIC: CIA's Link to In-Q-IT." Page 2.
[7] Contract between the Agency and In-Q-It, Inc. page 2.
[8] QIC Strategic Plan, Version 1.0 March 2000.

The Problem Set

The creation of In-Q-Tel's Problem Set started in 1999 with a call throughout the Agency's eighty or more offices. Members of QIC began discussions with office directors and four of the Agency Deputy Directors about technology needs facing the CIA. After obtaining a general feel for Agency needs, QIC conducted approximately 100 interviews with Agency subject matter experts to capture specific Agency IT requirements. This data call produced about 500 suggestions (ten percent of which came from the Directorate of Intelligence's primary IT group). The requests were consolidated and selected by QIC based in large part, on creating an unclassified Problem Set of Agency needs. Thirty to forty problems were identified for In-Q-Tel. Those problems were reviewed and culled further. What remained after considering classified information, customer needs and input from the Board of Trustees and staff of In-Q-Tel became In-Q-Tel's Problem Set and its agenda. The Problem Set was the basis of the contract between the Agency and In-Q-Tel from which In-Q-Tel began to operate in July of 1999 (See Chapter 5 and Appendix B for details on the Problem Set).

Model Evolution

The original concept of operations for In-Q-Tel was to be a type of technology systems integrator. That concept quickly evolved and In-Q-Tel became a buyer of products from long-standing Intelligence Community contractors. The model further evolved as In-Q-Tel started to receive good ideas and work plans from smaller start-up companies. Today, In-Q-Tel is a shopper in well-defined technology "spaces". Each of In-Q-Tel's evolutionary phases overlaps in time. While concurrency has presented some problems, it demonstrates the kind of agility In-Q-Tel needs to keep pace with the private sector and to meet Agency needs.

Originally, In-Q-Tel looked for "best-of-class" integrators of commercial off-the shelf (COTS) technology. It was believed there was more than enough technology in the marketplace, and the CIA only needed In-Q-Tel to pick the best technology and bring it into the Agency. To test this notion, a contractor familiar with the Intelligence Community was hired to integrate what the COTS world knew about building a secure local and wide-area network (LANs and WANs). The results were disappointing and the specific requirements were hard to understand. Thus, the contract was converted into one that looked directly at requirements, specifically generating "use scenarios", that exploited the expertise of subcontractors.

The next phase in the evolution of In-Q-Tel was to define a specific requirement and task bidders to solve that requirement. This limited the companies that could be reached because many companies were not comfortable with how the government does business and would not respond to this type of relationship. Silicon Valley companies and smaller start-ups are not familiar with this type of task and its specific requirements-driven relationship. Science Applications International Corporation (SAIC), a larger firm that is one of the traditional governmental contractors for the Agency, won two of the requirements projects. To some, SAIC's prominence among the initial winners cast a poor light, fairly or unfairly, on In-Q-Tel's ability to break the government procurement mold of contracting and reach out to those vendors who would not typically do business

with the government and particularly, the CIA.

This situation changed when Gilman Louie was hired as the CEO of In-Q-Tel on September 21st, 1999. He had a chance interview with the New York Times[9] and the Washington Post[10] in which In-Q-Tel was labeled as the CIA's venture capitalist firm. The story had an unexpected, but positive outcome. Despite scoffing from some private venture capitalists, that interview and related news stories prompted an immediate flurry of ideas from over 250 small firms, almost all of which were in the pre-IPO stage. These companies believed that In-Q-Tel and the CIA would want to invest in their ideas. In-Q-Tel now touts the fact that its venture capitalist label (although it prefers to be called a venture catalyst rather than capitalist) gives it a visibility into the stream of pre-IPO technology firms into which other government entities have absolutely no entree.

A lengthy process to determine in which companies In-Q-Tel should invest takes place in this, the third phase, of the model. Here, products that are technologically superior and appropriate for the CIA's special needs are filtered upwards. In-Q-Tel then works closely with vendors to prepare their products for Agency customers. This process accounts for most of In-Q-Tel's current projects.

Today, the model continues to evolve with In-Q-Tel now beginning to work more proactively to define "solution spaces". In-Q-Tel plans to focus on technology within those spaces, whether they reside in specific companies or with academic institutions. In-Q-Tel is also starting to share general informational needs with large venture capital firms and to have discussions on where needs overlap. In addition, In-Q-Tel has begun to track technology at universities to determine what universities are leaders in specific technological areas as well as identify new technologies among defense contractors, national and private labs, professional services firms and federal government entities that may have value to the Agency.

Goals

The principal goal of In-Q-Tel was to help the Agency solve mission-critical IT problems by attracting a greater range of talent to solve the Agency's Problem Set.[11] The secondary goal for In-Q-Tel was, and continues to be, to help create new IT markets, stimulate competition, and develop multiple commercialized solutions to help the Agency obtain better technologies more efficiently with a lower overall cost of ownership.[12] In-Q-Tel's organizational documents and stakeholders have stated repeatedly that In-Q-Tel's mission is not to survive just for survival's sake but to make a "strategic difference" within the Agency.

Even as the mission and methods continue to change, In-Q-Tel established the following four goals for calendar year 2000:

[9] Markoff, John. "C.I.A. to Nurture Companies Dealing in High Technology." New York Times, 29 Sep. 1999.
[10] Ignatius, David. "The CIA as Venture Capital." The Washington Post, 29 Sep. 1999.
[11] In-Q-It Draft Operations Plan Version 1.1, December 15, 1999.
[12] Ibid

1. Initiate a significant number of incubators that have potential yield for the Agency;
2. Involve a wide range of partners that have historically not been involved in Intelligence Community development;
3. Complete at least one demonstrable prototype of significant interest to the Agency for deployment and commercialization; and
4. Assist the Agency in the assimilation and testing of the prototype.[13]

Goal 1:
This goal was not met because a subsequent decision was made not to initiate incubators.

Goal 2:
In-Q-Tel has met with and reviewed business plans or formulated deals with a significant number of portfolio companies. These portfolio companies represent a wide range of partners that have not historically been involved with the Intelligence Community. In addition, the media attention of In-Q-Tel and its own networking has led over 750 companies to inquire, submit business plans and proposals to In-Q-Tel. Of those 750 companies, 23 have been contracted with, many which had not previously worked with the government. This wide-range of companies has expanded the number and types of firms which the Agency and the Intelligence Community as a whole usually partners.

Goals 3 and 4:
In-Q-Tel met these goals by delivering, assimilating, and testing a prototype of the Presidential Information Dissemination System (PIDS) project and a few other projects, which at the time of this report are being piloted by the Agency. Although PIDS does not currently have a commercial use, some of the technologies within PIDS do and In-Q-Tel is currently working with SRA and Fuji-Xerox to commercialize them. In addition, PIDS serves as the basis for the iWeb program within the Agency, which is responsible for creating a flexible and extensible framework from which to develop a portal for a larger analyst group. Some of the more recent pilot projects within the Agency seem as if they may be successfully integrated within the Agency. In addition, some portion of the technology may be commercialized.

There is evidence to suggest that In-Q-Tel-introduced technologies have greatly impacted Agency end users. One of the end users of the PIDS technology claimed PIDS greatly assisted their ability to brief the president-elect. Another end user of one of the piloted projects claimed: "My relationship with this vendor has been the best vendor relationship I have had in over 20 years with the government and having dealt with over 100 different vendors." This end user claimed the vendor has been there every step of the way with the technology and is willing to work with the Agency to make the technology work. In the piloting phase, this end user claimed the technology was able to do in a few minutes what his technicians told him they could do in two to three days.

[13] In-Q-It Draft Operations Plan Version 1.1 – Dec 15, 1999. Page 20.

The Panel Assessment

All in all, the Panel finds the number of work/products, investments and pilots to date impressive for a company of any type that has been in operation for only two years.

3 The Business Model

The business model adopted by In-Q-Tel/QIC is one of a number of methods that can be employed to find, foster and procure technology. Why was it created? After describing some of the more traditional models the government uses for discovering, developing and procuring IT, this section provides some basic facts about the In-Q-Tel/QIC business model and the "Q Process" for transferring IT solutions to the Agency.

Comparison: In-Q-Tel/QIC and Alternatives

Some stakeholders have questioned the necessity of forming In-Q-Tel and criticized the CIA for its development when other seemingly similar models are operating and used by other governmental entities. The Panel studied various models to understand the differences the In-Q-Tel model brings to the CIA relative to alternative models and acquisition processes.

The following models are described in this section: Federally Funded Research and Development Centers; Defense Advanced Research Projects Agency; Advanced Concept Technology Demonstrations; a dedicated Research Laboratory; and a Corporate Strategic Venture Capital Firm.

Some Alternatives:

Federally Funded Research and Development Centers (FFRDCs)

FFRDCs were initially set-up to meet the special needs of World War II. All FFRDCs are sponsored by government agencies, but are privately administered by universities and other nonprofit organizations. They are organized as independent, nonprofit entities with limitations and restrictions on their activities in order to protect that independence. There are currently 36 FFRDCs working in the fields of defense, energy, aviation, space, health and human services and tax administration.

By bringing together the expertise and outlook of government, industry and academia, FFRDCs solve complex technical problems that cannot be solved by any one group. They work in the public interest and operate as strategic partners with the sponsoring government agency. Since FFRDCs are prohibited from manufacturing products or competing with industry, commercial companies can divulge sensitive information to them knowing it will not be used to compete against them. This allows FFRDCs to provide guidance across the full spectrum of capabilities development, from planning and concept design to technology insertion and integration.

In-Q-Tel mimics most of the FFRDCs best attributes—independence, nonprofit, focused on a government customer. But FFRDCs tend to be more bureaucratic and less agile due to their close association with their government customers and the private R&D centers that rely primarily on government contracts. The CIA wanted more speed and flexibility in the IT market niche they were seeking to penetrate than the FFRDC model could provide.

The Defense Advanced Research Projects Agency (DARPA)

DARPA was established in 1958 in response to the Soviet Union's launch of Sputnik. DARPA's mission is to assure that the U.S. maintains a lead in applying state-of-the-art technology for military capabilities and to prevent technological surprise from adversaries.

DARPA is a project-based organization with efforts that typically last 3-5 years with a strong focus on end goals. Although, major technological challenges may be addressed over much longer periods of time, DARPA can only do so in a series of focused steps. A key distinction is that DARPA investigates ideas and approaches that the traditional government-sponsored R&D community finds too risky.

DARPA generates its technology agenda by combining its best educated guess at future military requirements with its highly sophisticated knowledge of cutting-edge technology. Typical awards on the "IT side" of DARPA are one to a few million dollars.[14] Universities account for a large percentage of these awards. The path from project back into the Department of Defense (DoD) is generally expected to be through industry either through commercial products that make use of the developed technology or through their diffusion as methods and techniques.

One major difference between DARPA and In-Q-Tel is that if a project does not have better technology than the rest of the world — never mind better than the military currently has — DARPA has little interest because DoD funds other avenues to make existing technology fit military requirements. By contrast, In-Q-Tel has less interest in "past-the-edge" technology and more interest in taking the "best-of-breed" from the Silicon Valley and similar places, nurturing it, and making it play in the Agency's world.

In-Q-Tel is also more concerned with the possible commercial applications of technology it supports while DARPA is far less concerned about commercial capability. DARPA feels that good products will eventually find a commercial application. However, DARPA does highlight their successes when products do have commercial use (e.g., the Internet).

Advanced Concept Technology Demonstration (ACTD)

In early 1994, DoD initiated a new program designed to help expedite the transition of maturing technologies from the developers to the users. The ACTD program was created to help DoD's acquisition processes adapt to today's economic and threat environments. ACTDs emphasize technology assessment and integration rather than technology development. The goal is to provide a prototype capability to the warfighter and to support the evaluation of that capability.

Most ACTDs are complex "technology-push" rather than "demand-pull" projects. They are not developed as part of the customer's emerging architecture. Furthermore many ACTDs, while demonstrating the feasibility and usefulness of a capability, may be judged to be different than

[14] This amount does differ from the "systems side" of DARPA in which contracts are quite a bit larger.

what the customer wants. As such, the ability and/or willingness of recipients to support and update fielded ACTDs has been somewhat disappointing.

Roughly half to two-thirds of all ACTDs are product capabilities that can either be used to enhance DoD's enterprise information infrastructure or are envisioned to be, one day, accessible from it. This ratio is also characteristic of In-Q-Tel's efforts. However, In-Q-Tel seeks to make a strategic difference and is interested in finding solutions that become part of the Agency's IT infrastructure, not just appendages to it.

Research Laboratories

There are several categories of laboratories including corporate, government, independent, and university. Funding and resources (facilities, people, etc.) for these labs are supplied by the financing organization—typically corporate profits, contracts, grants or endowments—while the direction of the research may or may not be influenced by the funding entity. Legal rights and commercialization are typically controlled by the funding entity.

Some of the positive attributes of research laboratories are: the high possibility of unexpected innovations, a large pool of resources and a well-defined structure. Drawbacks include: high costs, long-term development cycles and little commercialization help for developers.

The basic premise of the research laboratory is doing the science in-house. In-Q-Tel clearly does not fit this model, designed instead to partner with entities and leverage the already technically advanced R&D occurring in the private sector rather than having to build it from the ground up.

One noteworthy government research model is the National Medical Technology Testbed, Inc. (NMTB). Housed at Loma Linda University, NMTB has been funded by the U.S. Army since 1994 to foster research projects in order to deliver technologies that would improve military and civilian heath care delivery (e.g., medical instrumentation, trauma/shock management techniques, hypertension, diabetes, neurological, disorders, and the prevention of premature births). Like In-Q-Tel, self-sufficiency is NMTB's long-term goal, one pursued by having it take a percentage of the revenue or proceeds from the sale of supported products or services or from the licensing of technology so funded — but not through equity stakes. Also like In-Q-Tel, NMTB undertakes a business evaluation of the products with the explicit consideration of the potential for commercialization as well as for the expected profit margin and market size. Unlike In-Q-Tel, however, NMTB does not identify specific government customers for its products, and does not concern itself with bringing the results of its research back into the U.S. Army.

Corporate Strategic Venture Capital Firm

Corporate Venture Capital Firms are established to create new business opportunities by investing in promising technology startup companies or ventures. A few large corporations established a venture capital firm to prevent the small, agile start-ups from "stealing" pieces of their market.

Often established as wholly owned subsidiaries of a corporation, corporate venture capital firms primarily focus on the identification and support of technologies and market approaches that are strategic to the parent company. In some instances, the corporate venture serves as an incubator and provides the administrative foundation for the start-up. In general the individuals who manage the firms usually have an expertise in business planning, finance and R&D, as well as a history with the parent company.

Both In-Q-Tel and Corporate Venture Capital Firms focus on particular technological solutions of interest to another organization. In-Q-Tel focuses on technologies that meet the problem set of the Agency while Corporate Venture Capital Firms focus on the markets of the parent company. In addition, the desire to partner with others in the venture capital community when choosing investments is a shared feature of both models. The typical staffing of Corporate Venture Capital Firms and In-Q-Tel, combining of individuals with diverse backgrounds, provides another similar comparison point of both models.

Understanding the In-Q-Tel Model

In-Q-Tel has designed itself to be agile in order to respond to Agency needs; problem-driven to link its work to Agency program managers; solution-focused in order to improve Agency capability and team-oriented. It is often referred to as a type of government venture capital firm, but that is a mischaracterization. Although In-Q-Tel has some characteristics similar to those of a venture capital firm, it also embodies many aspects of other models and operates more like a technology accelerator—able to take maturing technologies and rapidly ready them for market.

The value proposition for In-Q-Tel is placed on obtaining IT solutions, whereas a venture capital firm places primary value on return on equity or assets. In addition, In-Q-Tel provides what portfolio companies have claimed is "smart money". Some aspects of the "smart money" concept are the intellectual capital and technology-related experience embodied in In-Q-Tel's employees coupled with the Agency as a potential test-bed. Venture capital firms tend to stay deeply involved in the management of their portfolio companies by providing direction and strategic advice; however, unlike In-Q-Tel, venture capital firms typically do not provide the same technological expertise that In-Q-Tel provides.

Although In-Q-Tel has only the government as a customer for its development activities, it differs dramatically from government R&D organizations in several ways. First and foremost, In-Q-Tel has the ability to make investments in companies with technology that is believed to meet a need of the Agency. These investments are accompanied by a contractual obligation for a deliverable work product. Secondly, In-Q-Tel does not have the bureaucratic constraints that are placed on traditional governmental organizations many of which are embodied in the Federal Acquisition Regulations (FAR) requirements. In-Q-Tel's ability to structure its' deals in this way is the driving factor for many smaller start-ups which otherwise would not be interested in conducting business with the government. Third, the fact that In-Q-Tel's role is to only fund unclassified IT projects allows it to have the freedom to engage multiple companies, academic institutions, and individu-

als. Finally, the cachet associated with In-Q-Tel has been instrumental for In-Q-Tel in receiving a multitude of ideas and business plans from all types of organizations. These attributes of the In-Q-Tel model, which are distinguishable from government R&D organizations, allow In-Q-Tel to foster collaborative relationships that make private sector and academic IT expertise more readily accessible to the Agency.

In an effort to be responsive to the changes and advances within the IT industry, many of the established commercial methods have been adopted. Figure 1 illustrates the common characteristics between the models, as well as, some of the characteristics of the other models, which are not part of the In-Q-Tel model.

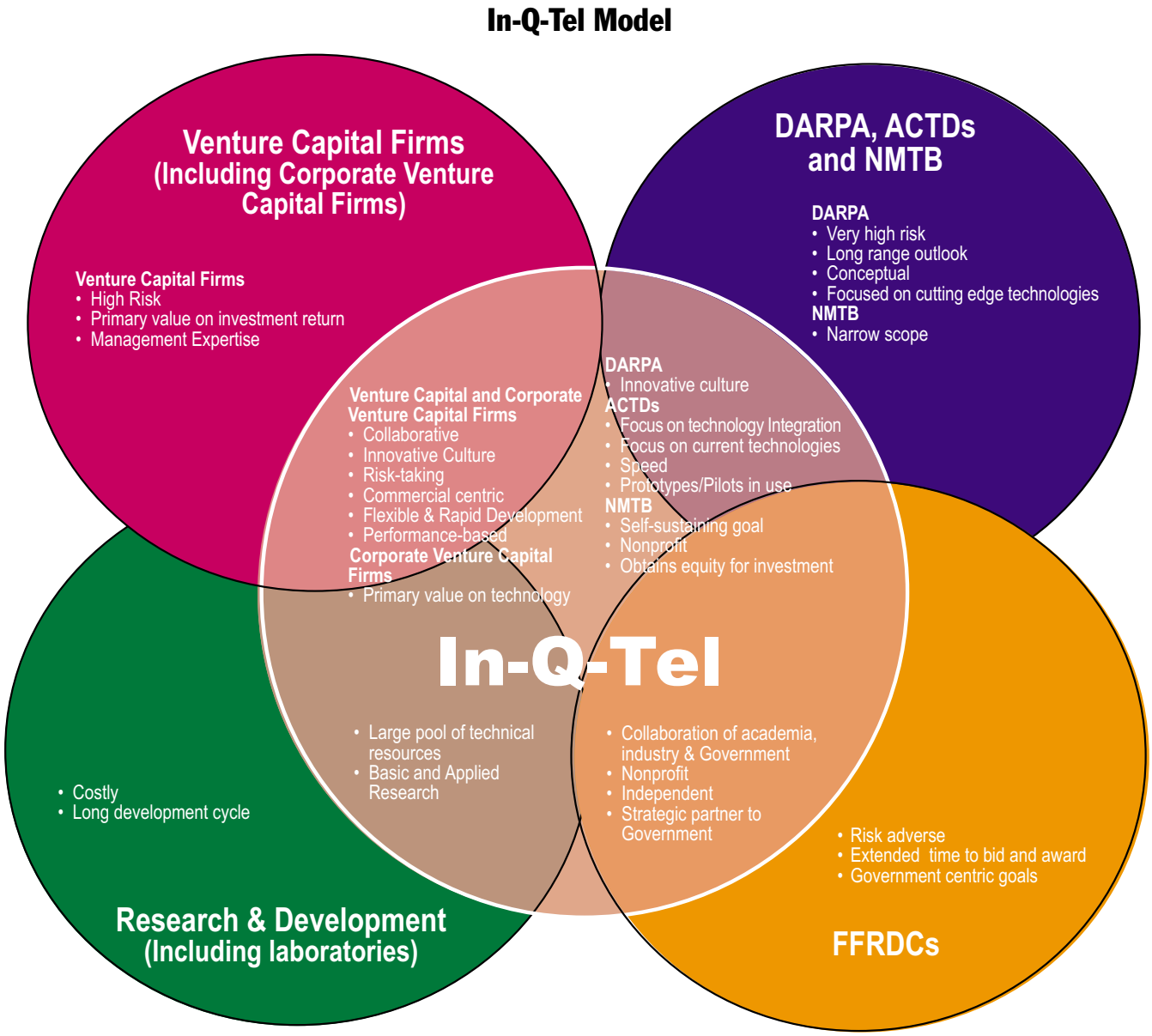


Figure 1

In-Q-Tel Facilitates the Delivery of New Technology to the CIA

In-Q-Tel has the following advantages over other government technology acquisition models. In-Q-Tel:

- Can make equity investments;
- Has fewer bureaucratic constraints;
- Is not required to comply with the FAR requirements;
- Can obligate funds in multi-year increments, i.e., "no year" money;
- Is not restricted by civil service personnel policy;
- Engages only in unclassified projects;
- Has the cachet of being associated with the CIA; and
- Has a flexible deal structure modeled after commercial contractual/investment vehicles.

Unlike a true venture capital model, In-Q-Tel is more aptly described as a "technology accelerator," seeking speed and agility in discovering innovative IT solutions for the Agency. In-Q-Tel differs from private venture capital models in the following ways. In-Q-Tel's:

- Value proposition is placed on obtaining IT solutions, not foremost on return on equity or asset;
- Deals always result in a product (e.g. feasibility assessment or a test product);
- Investments are more likely to provide value beyond cash:
  - Investment is "smart money" in its portfolio companies: that is, In-Q-Tel provides portfolio companies with intellectual capital, technology-related experience and the Agency as a potential test-bed; and
- Due diligence process is more strict:
  - In-depth investigation into the structure of the companies, financial status, and ability of the proposed technology to meet the Agency problem domain is completely evaluated before forming a contract.

Recommendation: In-Q-Tel's potential advantage to the CIA outweighs the risk. In-Q-Tel should continue as the CIA's entrepreneurial and innovative venture facilitating the delivery of new technology to the CIA.

Implementing the In-Q-Tel/QIC Model: The Q Process

To actually make the In-Q-Tel/QIC process work, it has adopted a project management planning and execution framework referred to as the "Q Process". This process is interactive and provides a collaborative means for In-Q-Tel and QIC to sequence the execution of projects. Although In-Q-Tel and QIC have evolved, the basic "Q Process" has not changed much since it was developed two years ago.

The "Q Process" is premised on a portfolio approach to solution design. The portfolio of projects includes different agreements with portfolio companies, different investments and engaging companies during different stages of development. With that understanding, it is important to

note that although In-Q-Tel/QIC attempts to follow the "Q Process" with every portfolio company, not every project will follow all the phases because of constraints in time and the stage which the project is in development. Nevertheless, the "Q Process" is a model for solution refinement, development and deployment within the Agency. In short, the "Q Process" begins with the Agency defining its problems, continues as In-Q-Tel searches for a solution for the Agency's need, and ends with In-Q-Tel returning solutions back to the Agency for the Agency to implement. A more detailed description of each of the phases in the "Q Process" can be found in Appendix A.

The Panel Assessment

In-Q-Tel has been mischaracterized as a private venture capital firm. More precisely, the Panel found that In-Q-Tel is an evolving blend of various business, nonprofit, and government R&D models. It is most analogous to a corporate strategic venture capital entity—like those maintained by major technology firms. In-Q-Tel seeks enhanced innovation, earlier discovery of relevant technologies, and more direct information on market developments.

4

Operational Aspects

To determine the potential success of In-Q-Tel, the Panel evaluated the operational aspects of the business model. The acceptance, implementation, and Agency use of discovered technology will ultimately determine success for In-Q-Tel and QIC. For that reason, the Panel's analysis focused primarily on solution transfer and the role In-Q-Tel and QIC play in the process.

Solution Transfer into the Agency is a Major Challenge

The Panel concluded that the deployment of solutions into the Agency requires attention. QIC has recently finalized the Solution Transfer Framework "to define an iterative process that encompasses the entire lifecycle of a project, from the annunciation of an Agency Problem Set to the deployment of commercial products." The Panel reviewed the framework document and recognizes it as a good first step, but determined that modifications to the proposed solution transfer process are needed.

Identification of Agency Customers

Interviews with Agency officials revealed concerns about investments in technology solutions before the identification of an end user. In one instance, an end user was ultimately identified, but did not embrace the solution being proposed. Specific concerns were expressed about the difficulties In-Q-Tel had in understanding the Agency's specific needs, navigating the CIA's insertion board process and overcoming the cultural resistance to change without an identified end user. The opposite was true in instances where Agency end users were introduced to the portfolio companies prior to In-Q-Tel investments. Agency customers engaged early in the process were able to provide input to the statement of work developed for inclusion in the contract between In-Q-Tel and the portfolio company and more importantly, insight to the challenge the Agency was facing. Lessons learned in this area have led In-Q-Tel and QIC to align a potential solution with an Agency end user – a champion or driver of change relevant to the solution – at the earliest point in the transfer process.

The Solution Transfer Framework addresses this issue by requiring the development of a Solution Transfer Plan to include elements such as project descriptions, risks and issues, and the identification of end users. However, the Framework requires that the Solution Transfer Plan be developed "when In-Q-Tel decides to fund or invest in a technology". The Panel suggests that In-Q-Tel should continue the current practice of identifying an end user before making an investment.

Navigating the Labyrinth of Technology Insertion Boards

The Agency requires software or hardware being implemented on the classified network to pass through up to six review boards and an associated 136 process steps. These review boards address security, counter-intelligence, Agency engineering, records management, installation support, and integrated logistics support. The challenges In-Q-Tel and QIC faced when trying to

obtain approval for deployment of a pilot solution prompted a review of the entire board structure and process. The Panel applauds this review and recognizes it as a corollary benefit to the efforts of In-Q-Tel and QIC.

Recommendation: The CIA should continue to streamline and simplify its process of introducing new products into its overall IT architecture.

In-Q-Tel's Role

In-Q-Tel's principle mission is to exploit new and emerging IT and pursue R&D that produce innovative solutions to the most difficult problems facing the CIA. The Panel found that In-Q-Tel is occasionally forced to assume a role it was not intended to play. Its goal is to assist the CIA with assimilation and testing, but the CIA has been unprepared with adequate resources to integrate the solutions In-Q-Tel delivers. Interviews conducted by the Panel revealed that, in at least one instance, In-Q-Tel was required to play a significant role in integrating pilot solutions because the customer did not have the appropriate technical resources. The Solution Transfer Framework provides a template for project planning that appears sufficient at the high level, but it has not been tested.

Recommendation: There must be shared responsibility for solution transfer of In-Q-Tel technology into the CIA. The CIA leadership, through the In-Q-Tel Interface Center (QIC), must put more focus on delivery and dissemination of In-Q-Tel's technology to the customers.

QIC's Role

QIC's mission is to link the Agency and In-Q-Tel to ensure identification, development, transition and acceptance of unique, value-added, commercially viable IT solutions that address the CIA's critical needs. In addition to its mission, QIC must perform oversight and contract administration, as delineated in the contract between In-Q-Tel and the Agency. Several of those interviewed commented that QIC's role in providing oversight has become more prevalent than its mission as an "Interface."

In-Q-Tel's Purpose and Capabilities are Vaguely Understood Within the CIA

Through the Panel's interviews, it became evident that many individuals within the CIA Directorates do not have a clear understanding of In-Q-Tel's capabilities. In addition, there is a lack of understanding about the types of companies with which In-Q-Tel is working, the types of deals they are making and the kinds of technologies being pursued.

According to QIC personnel, management officials within the Directorates often do not have knowledge of In-Q-Tel related projects occurring within their own Directorate. This may be because the project managers are working with In-Q-Tel and QIC on a technology that is in the process of being developed and not yet ready for Directorate or management level scrutiny.

However, this lack of knowledge sharing hinders the learning and appreciation of In-Q-Tel and QIC. "Marketing" In-Q-Tel within the Agency is necessary for the success of In-Q-Tel, as well as QIC and, ultimately, the CIA's objectives in this area. Without the understanding of In-Q-Tel's purpose and business model, Agency customers are more likely to engage other sources to assist them in meeting their business challenges when, in fact, In-Q-Tel may be a better alternative.

Recommendation: QIC should identify and connect In-Q-Tel personnel with key stakeholders and subject matter experts. Furthermore, QIC should more aggressively "market" In-Q-Tel capabilities within the Agency.

In-Q-Tel Budget Viewed As "Tax"

When In-Q-Tel was initially created, resources were taken from other office's budgets to cover the costs of In-Q-Tel. Through its interviews, the Panel learned that some viewed In-Q-Tel and its budget as a "tax". In organizations where the problems are inherently classified and extremely difficult to describe in an unclassified manner, some individuals question whether or not they are receiving the best value for their dollars. This fosters an argument that scarce resources should be spent in a different way and on other projects.

In-Q-Tel exposes the Agency to new ways of doing business and solving problems. However, In-Q-Tel and QIC staff commented that they have been met with resistance to change and what is often referred to as the "not invented here" syndrome. Success for In-Q-Tel hinges on changes in Agency culture and overcoming resistance to outside ideas while producing real results.

In-Q-Tel's model for steering technology development prior to commercialization is new to the Agency. Nevertheless, it is crucial for the CIA to adapt to this cultural change if it hopes to harness and implement constantly evolving commercial innovations.

Recommendation: The DCI must make the CIA leadership accountable for encouraging and nurturing a cultural change that accepts solutions from the "outside world." The CIA needs to develop and communicate a shared vision statement for the future of technology as the enabler to successfully perform the CIA's mission.

QIC Staffing is Critical to Success

Individuals interviewed by the Panel expressed concerns about the structure of QIC and its personnel experience set. Some suggested that QIC be staffed with employees having a strong IT background, while others recommended QIC be staffed with those having significant Agency experience and capable of speaking for their organizational sponsors. The Panel concluded that QIC needs an appropriate mix of both.

In order to understand the organization's needs and translate them into a reliable Problem Set, QIC requires staff members with a strong understanding of the business operations and the chal-

lenges faced by the CIA. To communicate the value of the technology solution identified by In-Q-Tel to a potential end user or assess how that solution may impact the Agency's current infrastructure, QIC requires individuals with technology expertise. Further, to meet its overall objectives and succeed at its mission, the QIC team should be comprised of the Agency's high performers.

Recommendation: The DCI should take action to ensure that a position on the QIC is viewed as career enhancing. The staff should also be senior enough to act on behalf of their respective organizational sponsors.

In-Q-Tel Not Connected to Agency's "Pulse of Technology"

Stakeholders have acknowledged there are certain individuals within the Agency that have their "fingers on the pulse of technology". To understand the Agency's current technology infrastructure and strategic IT direction, In-Q-Tel must be connected to these individuals.

According to stakeholders, as well as In-Q-Tel officials, a strong connection has yet to be formed. Without this connection, In-Q-Tel's success is in jeopardy. By design, there are only a handful of In-Q-Tel employees with a security clearance. Therefore, In-Q-Tel as a whole must rely on QIC to ensure that they are interfacing with the appropriate Agency stakeholders and experts.

In-Q-Tel and the CIA are in an important and necessary learning process during this experiment. There exists a need for a reliable and improved communications linkage between In-Q-Tel and its critical user communities in the CIA as well as an effective connection between In-Q-Tel and the senior executive leadership of the CIA. These connections will enable the CIA to represent its broad vision of the Agency's role in the Intelligence Community and inform In-Q-Tel on the best ways to hunt for, acquire and transfer the most appropriate technologies to support the vision.

The Panel believes this can best be accomplished by establishing an In-Q-Tel Intelligence Technology Oversight Panel that would at minimum include a representative combination of the senior executives at the CIA who care about focusing In-Q-Tel on the technologies that really matter for the Agency.

Recommendation: The CIA and In-Q-Tel should form an Intelligence Technology Oversight Panel to facilitate communication between the two organizations. The Panel should be chaired by the Executive Director and include the Chief Scientist, the Deputy Directors, the Assistant Directors of Central Intelligence, and the Chief Information Officer.

Alignment of QIC Should Be Reconsidered

The Panel gave extensive consideration and discussion to the question of In-Q-Tel/QIC's positioning in the Agency as well as within the overall Intelligence Community. QIC is currently housed within the Directorate of Science and Technology (DS&T) where it was born, nurtured, and di-

rected from an Agency perspective for its first two years of life. The DS&T has done a commendable job of providing leadership and a framework for implementation of the fundamental concepts driving In-Q-Tel/QIC. A majority of the Panel concluded that QIC should stay where it is for the moment.

However, some members of the Panel believe that the IT component of In-Q-Tel/QIC's mission is the most critical success factor for the CIA over the next several years and that it might benefit from reorganizing to report to the Agency's Chief Information Officer after the recent restructuring led by the Executive Director. Indeed some Panel members believed that the In-Q-Tel promise is so great that it should report even higher up in the Agency, to the Executive Director or even the Director of Central Intelligence. The Panel's final conclusion is that the structure should not be changed at this moment but that the Agency should take up this question again when the next assessment is conducted.

Recommendation: The Director of Central Intelligence and the Executive Director of the CIA should revisit the question of In-Q-Tel's proper reporting relationship within the Intelligence Community no later than July 2004 at the end of the current charter agreement.

The Panel Assessment

The Panel found that In-Q-Tel is positioned to deliver technology innovation to the CIA. It is not clear, however, that the CIA has a timely and efficient process to "insert" that technology into the Agency's IT architecture. Most stakeholders feel they can only declare In-Q-Tel a success if the technology it introduces improves the ability of CIA analysts and clandestine officers to carry out intelligence tasking, collection, processing, exploitation, and dissemination. The Panel finds the thinly tested solution transfer process a major challenge to In-Q-Tel's future success. It also views the role of the QIC as crucial, requiring that it be staffed and organizationally aligned properly and primarily focused on ensuring that In-Q-Tel has easy access to the right people in the Agency.

5

Technology Issues: From Problem Sets to Solutions

The Panel commends the CIA for consolidating and articulating its IT needs into a Problem Set. Apparently, this has never been done before. The current Problem Set encourages In-Q-Tel to pursue a broad range of technology. The Panel focused on how the Problem Set—its formation, evolution, and the direction it gives—informs and guides In-Q-Tel's work program and investment portfolio.

More Than One Method Minimizes Risk

Throughout the review, the Panel considered the role of In-Q-Tel with respect to the other IT operations currently taking place within the Agency. It became apparent that In-Q-Tel is only one of the Agency's means for acquiring technology solutions. The Panel concludes that having more than one source from which to acquire solutions minimizes the risk of failure and, therefore, represents a prudent course of action.

A Strategic IT Direction Is Needed

Agency interviews revealed that the CIA lacks a clearly articulated IT strategy. Because In-Q-Tel is not the only source for IT solutions, it is important for the Agency to define its IT strategy so that all its IT initiatives can be aligned and integrated. Doing so will assist In-Q-Tel in targeting technologies that are consistent with, or even drive, the Agency's vision. To reiterate a recommendation made in Chapter 3, the Panel believes the CIA needs to develop and communicate a shared vision for the future of IT, enabling In-Q-Tel to perform its mission more efficiently.

Recommendation: The CIA should immediately assess how well its information technology strategy is aligned with its business strategy including all elements of mission, goals, objectives, and critical success factors. This should be translated into an IT strategic action plan to direct In-Q-Tel and other IT acquisition processes.

Problem Set is Inclusive

Because of In-Q-Tel's unclassified environment, QIC developed a special filtering process for obtaining solutions to inherently classified problems. The vehicle designed to do this work, termed the "Problem Set," results from an evolving process through which Agency needs are translated into In-Q-Tel solution targets. The Problem Set also provides the basic statement of work for In-Q-Tel's annual contract agreement with QIC. According to CIA officials, the generation of the first Problem Set represented the Agency's first attempt ever to assess IT needs across the entire organization. This action is commendable and should be recognized as a corollary benefit to the formation of In-Q-Tel.

Generating the Problem Set

The QIC, led by its Chief Technology Officer, generates a new Problem Set every year. The process, as depicted in Figure 2, begins by surveying technology leaders, service providers, and other users across the CIA to define an Agency IT Problem Set. QIC compiles, assesses and reshapes the information to ensure classified needs are described in an unclassified manner and requirements that are similar to each other are expressed as a single needs statement. The Problem Set consists of high-level problem descriptions and is prioritized by urgency.

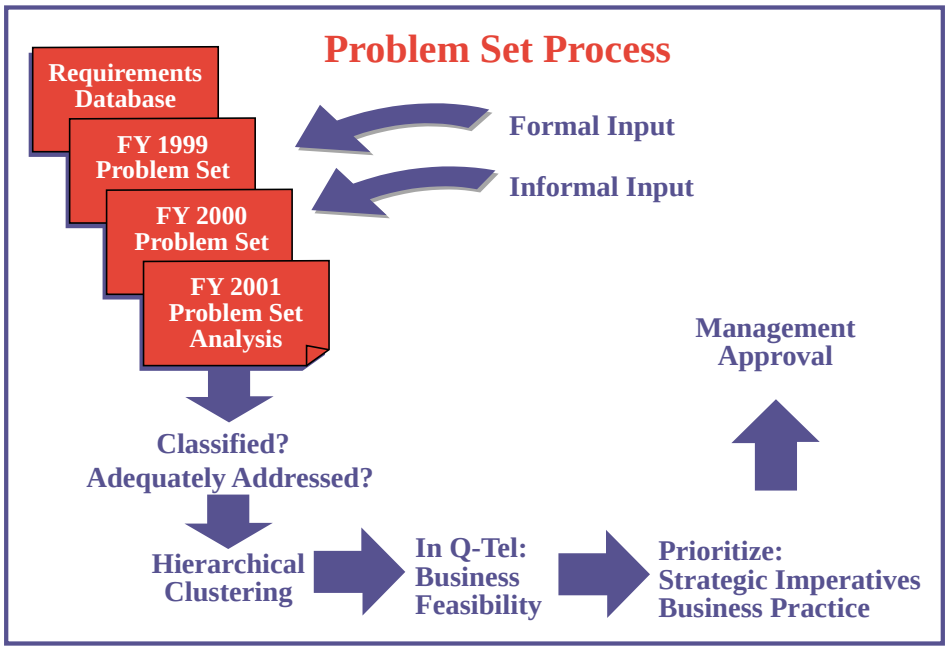


Figure 2

Once the Problem Set is initially compiled, it is submitted to an interdirectorate experts panel for review and validation. QIC then submits the revised Problem Set to the Agency Information Service Board (ISB) for further comment and revalidation by the senior IT representatives from all directorates. The ISB presents the Problem Set to the Agency Executive Board for final approval. The result is a truly corporate statement of the Agency's most pressing IT challenges.

Problem Sets to Date

In-Q-Tel's efforts to date are being driven by the FY 1999 and FY 2000 Problem Sets. The FY 2001 Problem Set, drafted in March 2001, has just been made available. The three Problem Sets have been criticized by some as being too broad. The Panel questioned stakeholders as to whether the Problem Sets accurately reflected their needs. The response in several instances was that the Problem Set could be broadly construed so that all requirements could fall within the boundaries. Others commented that the Problem Set should remain broad with the intention that In-Q-Tel could explore anything appropriate within wide boundaries.

To allow In-Q-Tel maximum flexibility in making a strategic difference to the Agency, the Panel concluded that the Problem Set should remain broadly focused as long as it continues to indicate Agency IT priorities. However, as discussed in Chapter 4, better communication between In-Q-Tel and the Agency customers is required to ensure In-Q-Tel has a clear understanding of the problems they are attempting to solve. In addition, In-Q-Tel should be aware of—and be part of the creation of—the Agency's IT architecture as it develops.

Problem Sets Evolve

The Panel observed that the three Problem Sets thus far generated, while internally consistent within the year for which they were developed, did not seem to track with each other from year to year. In other words, each new Problem Set did not appear to subsume automatically the prior years' Problem Set. There are two possible explanations for this outcome. Either, developing the Problem Set is evolutionary and after only three attempts the process has not yet stabilized into a consistent repeatable pattern. Or, the Agency is simply getting better at collecting and accurately prioritizing its most critical IT needs and the 2001 Problem Set is representative of that maturity. (See Appendix B for Agency Problem Sets.)

In-Q-Tel's Transformation of the Problem Set

Upon receipt of the Problem Set, In-Q-Tel assesses its ongoing projects and investments to evaluate gaps in its Problem Set coverage. To demonstrate to the Agency that the Problem Set is fully comprehended, In-Q-Tel developed a pillar construct to communicate its assimilation of customers' needs. In-Q-Tel translated the current Problem Set into four pillars. The four pillars will provide the basis for In-Q-Tel's FY 2002 plan of action:

- eCollection
- eAnalytics
- Web Discovery
- INFOSEC

eCollection and eAnalytics refers to using electronic means to both collect and analyze information automatically. Web Discovery is using the search power of various software programs to seek out information on the Internet. Information Security or INFOSEC describes the means of protecting CIA intelligence from disclosure or misappropriation.

Method for Finding Solutions Properly Evolving

In-Q-Tel is responsible for identifying potential solutions to needs identified within the Problem Set with preference for best-in-class and frame-breaking solutions. Its wide outreach—and the diverse list of technology companies with which it has dealt—indicates In-Q-Tel continually strives to find the right mix of organizations to engage in solving the Agency's IT needs. The Panel believes this is an appropriate business practice and, therefore, In-Q-Tel should continue to reassess its investments and make process improvements as necessary. Specifically, In-Q-Tel needs to design a process to continually assess whether potential solution providers, including university research centers and traditional government IT providers, contribute to the success of delivering new technologies to the Agency.

The Panel Assessment

The current Problem Set encourages In-Q-Tel to pursue a broad range of technology but without the ability to foresee whether the targeted technology is aligned with the Agency's future IT vision or if it will directly address a specific agency requirement. To fully inform In-Q-Tel:

- The Problem Set must remain flexible to accommodate cutting edge organizations and technologies that may be discovered by In-Q-Tel;
- Access to the Agency's end users is crucial during the identification of new technologies as well as the solution transfer process; and
- The Problem Set must be seen in the aggregate as moving the Agency towards its strategic vision and not just a collaboration of independent needs.

6

Legal Formation and Intellectual Property Rights

Although not specified in the original statement of work, interest arose during the assessment about the legal basis for In-Q-Tel's formation and current operations, whether the opportunity for meaningful competition is adequately maintained, and whether In-Q-Tel is properly negotiating intellectual property rights.

In-Q-Tel is Legally Constituted

The Panel concludes that the CIA relied upon appropriate and competent legal authority in requesting a group of citizens to establish In-Q-Tel as a new nonprofit organization. The CIA justifiably determined that existing acquisition approaches and structures were not sufficient to maintain the Agency's IT competence at the level of the best practices of the private sector, or to enable the Agency to explore emerging solutions to exigent technology challenges. The Central Intelligence Agency Act of 1949 gives the CIA the authority to expend appropriated funds for purposes necessary to carry out its functions, "notwithstanding any other provisions of law." 50 U.S.C. Section 403j.

Although not required by law, the CIA, as a matter of policy, adheres to the procurement goals and procedures of the Federal Acquisition Regulation (FAR) and the Federal Property and Administrative Services Act (FPASA) to the greatest extent possible.

The FPASA, as amended by the Competition in Contracting Act of 1984 (CICA), generally requires "full and open competition" in government contracting. However, under several circumstances, both the FAR and FPASA permit non-competition awards. These circumstances include:

- When the supplies or services required by the agency are available from only one responsible source . . . and no other type of supplies or services will satisfy agency requirements, full and open competition need not be provided for. FAR 6.302-1;
- To establish or maintain an essential engineering research or development capability to be provided by an educational or other nonprofit institution or a federally funded research and development center. FAR 6.302-3;
- Full and open competition need not be provided for when the disclosure of the agency's needs would compromise the national security unless the agency is permitted to limit the number of sources from which it solicits bids or proposals. FAR 6.302-6; and
- Full and open competition need not be provided for when the agency head determines that it is not in the public interest in the particular acquisition concerned. FAR 6.302-7.

The Agency Maintains Adequate Opportunity For Competition

The Panel also explored whether there is adequate opportunity for competition before the CIA awards contracts. The In-Q-Tel model, as it currently operates, enables the Agency to benefit

from the principles of competition in contracting. These benefits are derived from a two-step process for maintaining competition. First, In-Q-Tel engages in an extensive market analysis and outreach program which is designed to encourage submission of proposed technology solutions by a wide range of businesses and other potential providers. Second, in the CIA's own acquisition process, preference is not given to technology because it has been developed by In-Q-Tel. FAR 52.244-5, Competition in Subcontracting, is a clause prescribed for inclusion in some (but not all) negotiated FAR based contracts. Even then, the requirement for a prime to select subcontractors on a competitive basis is only "to the maximum extent practicable consistent with the objectives and requirements of the contract."[15] In-Q-Tel's requirement to use the competitive procedures comes from the Charter Agreement, not CICA.[16]

In-Q-Tel's Outreach

In-Q-Tel has adopted an extensive outreach policy designed to achieve necessary competitive objectives in its identification and selection of research and development sources. In-Q-Tel's section procedures are based upon fairness, openness and flexibility. Through a solicitation on its web site, In-Q-Tel advertises its needs to all companies with access to the Internet. The solicitation requirements are not burdensome and there is an open, continuing invitation for submission of business plans and proposals.

In addition, In-Q-Tel proactively surveys the marketplace to determine which technologies are available that could answer the Agency's problem sets. In-Q-Tel performs technology industry comparisons to support the review board's investment decisions. Moreover, In-Q-Tel continuously monitors the marketplace to analyze trends and opportunities to determine the value of technologies provided by contracted portfolio companies against other alternatives.

Agency Acquisition

Once a technology is introduced to the Agency by In-Q-Tel and piloted within the Agency, the CIA administers the acquisition process. No preference is given to In-Q-Tel developed technologies at that stage. In accordance with regular acquisition procedures, the In-Q-Tel solution must compete against other technologies or receive a sole source justification. If the Agency wishes to acquire a technology after a pilot, it will first determine whether competitive technologies exist. If there are such technologies and a competition is feasible, it will be conducted. If there are no viable competitive sources, a sole source contract can be negotiated with In-Q-Tel.

Because of the CIA's security requirements and environment, certain aspects of the acquisition process are unique to the CIA. First, security considerations may lawfully limit a competition for acquisition of a technology to a pre-selected group of contractors. Second, security considerations may result in a sole source procurement. These factors may arise in connection with technologies provided by In-Q-Tel. In addition, a sole source procurement may become justified

[15] See FAR 52.244-5.
[16] See Charter Agreement Article III.K.

when the Agency already has use rights to In-Q-Tel sponsored technology. This could occur when an In-Q-Tel portfolio company has granted "Agency Use Rights" in its development agreement with In-Q-Tel.

In-Q-Tel Properly Considers Intellectual Property Rights

The Panel reviewed the legal treatment of intellectual property in the arrangements between In-Q-Tel and the CIA, as well as between In-Q-Tel and portfolio companies. There was a concern that the government may not be receiving all the appropriate intellectual property rights for technologies developed with government funds.

The Panel believes In-Q-Tel should not be required to impose on its portfolio companies more stringent intellectual property provisions than are required to serve the actual interests of the government. Stringent provisions would be counterproductive and might unnecessarily harm In-Q-Tel's ability to tap into private sector and academic IT expertise.

The Charter Agreement obligates In-Q-Tel to obtain "government purpose rights" in inventions and "rights in data" for computer software and technical data generated by its subcontractors although the CIA may waive the requirement at In-Q-Tel's request. The requirement to provide certain intellectual property rights to the government "flows down" from prime contractors to their subcontractors when contracting with the government.

The government purpose license rights make the patent rights held by the contractor or subcontractor less valuable because they can only exercise them on behalf of government purposes. Government purposes do not include the rights to practice an invention for commercial purposes or authorize others to do so.

With respect to computer software, it became clear that the standard government purpose license rights clauses would be an impediment to In-Q-Tel negotiations with prospective vendors. Therefore, In-Q-Tel and the CIA amended the Charter Agreement to add another, narrower category, "Agency purpose license rights" or "Agency Use Rights", for software developed with both government and subcontractor funding. The FAR permits and encourages the negotiation of special licenses in mixed funding scenarios.[17]

The Agency purpose license rights are applicable only to the CIA and do not transfer to other government agencies. Other agencies retain the right to buy those products of the portfolio company from mixed-funded works with no less favorable terms than any other customer of the portfolio company.

The Panel finds that In-Q-Tel uses all its options and authorities to negotiate the best deal for the government. Intellectual property rights are a topic of active negotiation in many of the transac-

[17] See FAR 27.408.

tions between In-Q-Tel and its portfolio companies. The Agency purpose license rights alternative is used frequently. In a few cases, after vigorous negotiation, it has not been possible to close deals with vendors except by obtaining a waiver of patent rights from the CIA. In those cases, the CIA has granted the waivers nine times. The intellectual property provisions of the charter agreement have been an issue of some contention in negotiations with companies, particularly early on in In-Q-Tel's history, but have not been a significant impediment to deals that In-Q-Tel wanted to make, especially with the flexibility created by In-Q-Tel's ability to use Agency Use Rights.

In-Q-Tel informs the CIA of the details of all contract negotiations as they progress to assure that the Agency will be comfortable with the final terms. In-Q-Tel is also careful to comply with the procedural requirements of the intellectual property terms of the Charter Agreement.

In-Q-Tel is permitted to make equity investments without any obligation to obtain intellectual property rights. With that said, the Panel understands that every equity investment is coupled with a development agreement that typically includes a rights transfer to the government.

The CIA's turnaround time on reviewing proposed terms of In-Q-Tel agreements with its portfolio companies is claimed to be excellent.

In-Q-Tel Employees

There is also the possibility that In-Q-Tel employees might invent or create works that need to be protected by intellectual property rights. In-Q-Tel requires each employee to execute an employee nondisclosure, invention assignment and non-solicitation agreement, by which the employee agrees to promptly and fully communicate in writing to In-Q-Tel any and all inventions, discoveries and other intellectual property rights conceived or first reduced to practice or which otherwise result from work on behalf of the company, and assigns to the company all right, title and interest in such intellectual property. To date, no patentable inventions have been identified pursuant to the agreements. Although the primary role of In-Q-Tel is not focused on intellectual property that In-Q-Tel itself might generate, there are reasons to protect such property, and the General Counsel of In-Q-Tel has confirmed the company's intention to pursue a formal training program to sensitize In-Q-Tel employees to the types of intellectual property that employees may create and how they should be identified and protected.

Recommendation: In-Q-Tel should proceed immediately to implement a program to assure protection of its own intellectual property rights in situations where its own employees may invent or create protectable works. This program should be developed by the General Counsel of In-Q-Tel and communicated to employees as soon as practical.

The Panel Assessment

The Panel believes that In-Q-Tel was legally constituted and that the Agency acted consistently with the FAR when In-Q-Tel was created. The Panel notes with approval the CIA's commitment to acting in accordance with Congressional objectives concerning the promotion of meaningful competition, including the FAR, while also recognizing the existence of special legislation applicable to the Agency and its acquisition processes. The Panel also believes that In-Q-Tel is properly negotiating for the government appropriate rights in intellectual property developed using government funding.

7

Financial Assessment: Appropriated vs. Expended Funds

With the exception of interest income, In-Q-Tel's sole source of funding to date has been federally appropriated dollars received through contracts with the CIA. Therefore, Congressional oversight and other key stakeholders want assurance that these funds are properly expended. The Panel conducted a comprehensive review of In-Q-Tel's and QIC's finances and employee compensation policy.

Funding Obligated

The CIA's contract with In-Q-Tel was $28.7 million in Fiscal Year (FY) 1999, $37.27 million in FY 2000 and $33 million in FY 2001. As of March 31, 2001, In-Q-Tel had received a total of $62.7 million (i.e., the FY 1999 contract amount and all but $3.27 million of the FY 2000 contract amount) from the CIA. In-Q-Tel was provided the remaining FY 2000 amount and $15 million on June 6, 2001. The $15 million represents the first installment of In-Q-Tel's FY 2001 contract of $33 million. (Additionally, In-Q-Tel has earned $1.46 million in interest income.) Figure 3 reflects how funds were provided to In-Q-Tel over time.

It is important to note the approximate eight-month lag between Congress' appropriation of funds to the CIA and the CIA's appropriation of said funding to In-Q-Tel. The Federal and In-Q-Tel fiscal years are offset, which leads to occasional confusion about In-Q-Tel's funding profile. Congress and the CIA need to appreciate the realistic time constraints associated with In-Q-Tel's activities to date.

QIC Operations and Solution Transfer Fund

A portion of the appropriated funds remains with the Agency to pay for QIC's operations and a Solution Transfer Fund. The cost of QIC averages less than a typical 7-10% management fee that would be charged by an FFRDC or private supplier on a government services contract. The Solution Transfer Fund is required to finance the implementation of solutions identified by In-Q-Tel. In most instances, the end user organization did not anticipate the discovery of the solution and, therefore, had not budgeted for its implementation. QIC determines the amount that should be requested in each fiscal year for the Solution Transfer Fund. For costs exceeding $1 million, the Director of QIC takes a proposal to an Agency review board where the CFO and CIO are represented for approval, and corporate knowledge of the transfer. That corporate notice allows all relevant entities to ready themselves for future Operation and Management (O&M) costs. Below a $1 million threshold, funds are expended at the discretion of the Director of QIC in partnership with the customer office, which typically executes the expense of those funds.

In-Q-Tel Expenditures

According to In-Q-Tel's FY 2001 fourth quarter report, In-Q-Tel recognized approximately $30.1 million in mission delivery (programs, pilots, etc.), $2.5 million in start-up costs , and $10.1

million in recurring General & Administrative expense. Additionally, In-Q-Tel made $2.6 million in equity investments and incurred other expenses of $2.9 million during the same timeframe. There is another $6.2 million in open commitments. Figure 4 depicts In-Q-Tel's expenditure of funds.

Of the $65.97 million obligated to In-Q-Tel through March 31, 2001, In-Q-Tel has almost $11.57 million available for future investments.

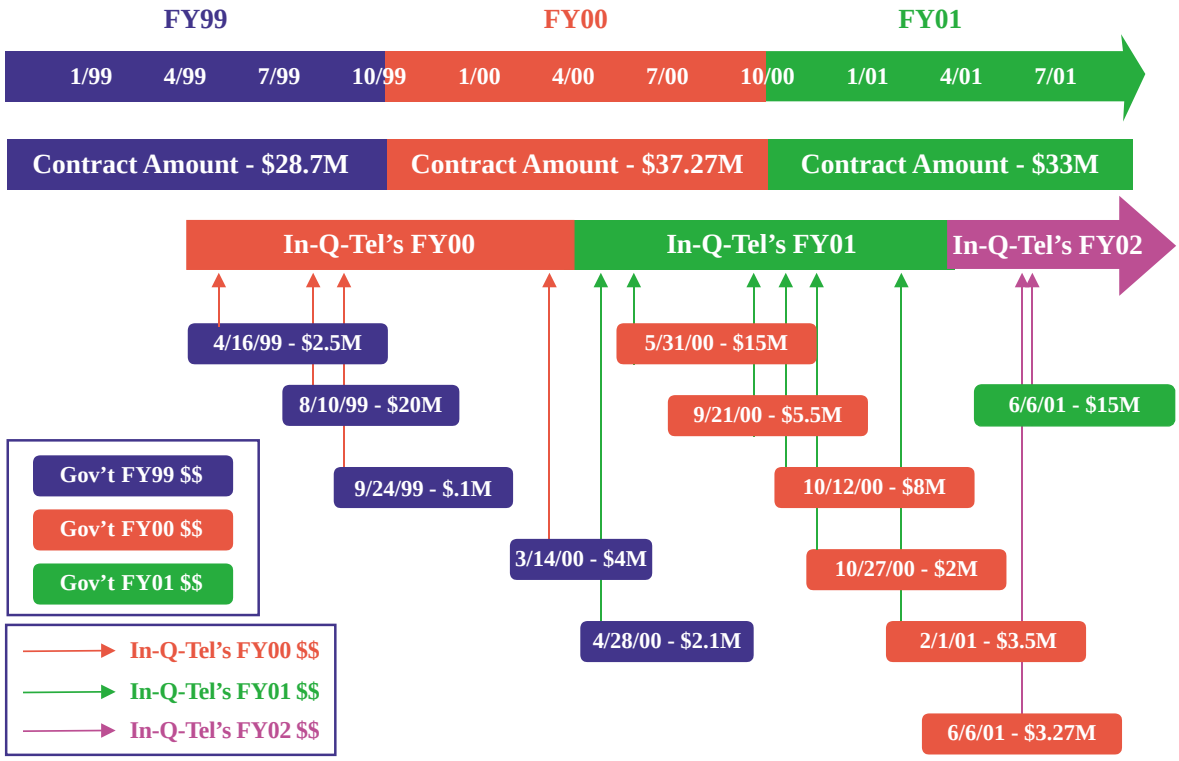


Figure 3

Expenses, Expenditures and Open Commitments	Total in Millions
General and Administrative Expenses	**$12,575**
(Start-Up)	**$2,492**
Recurring	$10,083
Mission Delivery (Programs, Pilots, Prototypes, etc.)	**$30,123**
Technical and Marketing Analysis	$2,459
Portfolio Management	$739
Proof of Concept	$5,580
Prototyping	$18,246
Baselining	$2,694
Commercialization	$405
Equity Investments	**$2,648**
Other Items	**$2,944**
Open Commitments	**$2,201**
Total	**$54,491**

Figure 4[18]

[18]Based on Audited Financials for Year ended March 31, 2001.

Financial And Managerial Controls

In-Q-Tel has undergone a Financial and Managerial Controls Audit by the CIA's Office of the Inspector General (IG), and a Financial Statement Audit by PricewaterhouseCoopers LLP for the period of its inception through March 31, 2000 and for the year ended March 31, 2001. Both organizations found the financial controls and statements to be in conformance with generally accepted accounting principles.

Specifically, the IG stated that In-Q-Tel's accounting system was "well designed and operating effectively to provide management with accurate and reliable financial and accounting data." For that reason the Panel did not re-examine the financial controls and deemed that the financial information provided by In-Q-Tel was reliable. However, the Panel did find it difficult to grasp In-Q-Tel's reports depicting project expenditure information because different naming conventions are used in the various reports (i.e., some project names are the company name in one report and the technology name in another report).

For consistency and ease of comprehension, the Panel suggests that In-Q-Tel develop a standard list of project names and use them consistently throughout their reporting.

Investment Decision-Making

To assess whether program funding and equity investments were reasonable, the Panel assessed the process through which In-Q-Tel makes its investment decisions. The Panel formed an understanding of the process by interviewing In-Q-Tel Board members and key officials, observing a Board of Trustees meeting and reviewing relevant documentation. This understanding and the Panel's assessment of the processes are provided below.

Technology and Business Assessments

When a potential solution is identified, In-Q-Tel conducts a technology assessment of the solution and a business assessment of the company. In the past, In-Q-Tel conducted the business assessment before the technology assessment. However, In-Q-Tel found this to be inefficient since the primary driver for investments is technology feasibility and ability to address the Problem Set. Under the direction of its new Chief Operating Officer, In-Q-Tel is now revamping its vetting process to perform the technology assessment prior to the business assessment.

Although In-Q-Tel is striving to improve the efficiency of its vetting process, the analysis performed appears to be sound. During interviews conducted by the Panel, portfolio companies commented that In-Q-Tel conducted a due diligence process that was more thorough than any other venture capital company. According to one portfolio company's President, In-Q-Tel's due diligence "didn't stop until four hours before the deal was signed". Company officials also commented that In-Q-Tel conducted "tough" negotiations.

Decision-Making Criteria

In-Q-Tel makes its investment decisions based on (1) a balance of business and technical risks, (2) a measure of solution transfer risk and an Agency "win" factor and (3) an allocation of finite capital and human resources. As previously discussed, the In-Q-Tel equity investment model considers both business and technical aspects and only invests if the technology produced is deemed to address an element of the Problem Set and has potential to make a return on the investment. In-Q-Tel also strives to invest in programs that will solve a problem that the Agency would not otherwise solve in a reasonable period of time.

With respect to technology and solution transfer risks, In-Q-Tel determines the significance of the hurdles required to integrate the solution into the Agency. If the risks to solution transfer and deployment outweighs the benefits, In-Q-Tel is less likely to make an investment. The ability to leverage "other people's money" is also a factor in decision-making. In-Q-Tel is more likely to make an investment if other venture capital groups have invested, thereby validating the technology and providing additional funding for the development of the product. Additional business factors considered include: potential size of market space, competition in the market space, how much intellectual property could result, quality of the company's management team and potential for In-Q-Tel to obtain a seat on the company's board.

Approval Process

According to its internal procedures, In-Q-Tel convenes a review board comprised of senior management to assess and approve any investment or development program. For investments over $250,000, In-Q-Tel must seek approval of its Board of Trustees or the Finance Committee of the Board. As an independent corporation, In-Q-Tel is not required to obtain approval from the CIA. However, the QIC has an "observer" role on this review board and In-Q-Tel considers their insight when making the investment decision.

In accordance with the Section II.S.3 of the charter agreement between QIC and In-Q-Tel, In-Q-Tel provides notice to the CIA through the QIC Administrative Contracting Officer of each equity investment. This provides the CIA's Procurement Executive an opportunity to raise questions or provide input. The Panel determined that the level of insight offered to the CIA during the decision-making process is adequate given In-Q-Tel's independent private sector status.

The Panel concluded that In-Q-Tel has identified an appropriate set of investment criteria, but should apply them in a more precise manner. Specifically, each criterion should be weighted based on importance and "scored" during the review board meeting and/or Board of Trustees meeting.

In-Q-Tel Staffing

In-Q-Tel currently has 35 employees in four areas: strategy, operations, venture and technical. The operations and technical staff (at approximately 12 each) are large in comparison to a private venture capital firm. The Panel noted, however, that the amount of effort required by In-Q-Tel to

complete solution transfer activities is substantial. This is a direct result of the complexity associated with the Agency environment and the extensive Agency technology insertion board process. The fact that almost all of the solutions have to be refined and evaluated outside of the Agency, then integrated into the classified architecture, accounts for much of the technical personnel overhead. A truly private firm usually does not have to perform this function. In-Q-Tel also provides insight and advice to the portfolio companies to not only increase the probability that the developed solutions meets the Agency needs, but to facilitate the company's success from a business perspective.

Compensation Plan

In interviews outside of the Agency, the Panel became aware that In-Q-Tel's compensation plan for its Board members and senior officials was a subject of interest and concern.

The Board of Trustees members receive cash compensation, with additional compensation for the chairman and the committee chairs. Five Board members have declined compensation.
All In-Q-Tel employees receive compensation based on three components:

- Base Salary
- Annual Cash Bonus
- Participation in a Long-Term Employee Investment Program

On average, the compensation program is designed to target employees to the 50th percentile of industry.

Base Salary

The base salary for the Chief Executive Officer is determined based on the Mercer, Watson Wyatt and PricewaterhouseCoopers compensation survey for comparable positions in the High Technology, Nonprofit, Government Contractors and Venture Capital Firms. More specifically, executive and technical base salaries, including the CEO, are calculated to be the average of these four industries at the 75th percentile. For non-technical staff, base salary is calculated at the 60th percentile.

Annual Bonus

All In-Q-Tel employees are eligible for an annual bonus. The bonus funding is based on the company's overall rating. The bonus calculation is based on department and individual performance. The CEO's target bonus amount is 50% of base salary and the COO and Executive Vice President target is 40% of base. Annual bonus targets for all other employees range from 2.5% to 25% of base salary determined by their position.

In-Q-Tel's Compensation Plan document describes the method used in determining the company, department and individual rating and corresponding bonus amount. According to the Plan, awards to participants under the annual incentive plan are based upon two categories of outcomes: (1) results of functional department, and (2) individual results compared to target. The weighting is 50% on department results and 50% on individual outcomes. For any year, the Board's Human Re-

sources Committee may assign a different relative weighting to each of these categories.

The Board's Human Resources Committee, in consultation with the CIA, determines an overall company "score" which reflects the extent and manner in which In-Q-Tel has been successful in pursuing its mission for the Agency. The Committee determines this score based on discussions with the Director of QIC and evaluation of In-Q-Tel's performance compared to the In-Q-Tel/QIC joint metrics. Other ratings are based on the set of department and individual performance goals and objectives developed at the beginning of the fiscal year.

Figure 5 represents the method in which In-Q-Tel calculates annual bonus, including an example.

Company Approval Rating	Criteria	% of Bonus Target Available
1	Unsatisfactory results	0%
2	Less than fully satisfactory results	60%
3	Fully satisfactory results	100%
4	Exemplary results	120%
5	Outstanding results achieved	150%

Department and Individual Approval Rating	Criteria	% of Bonus Target Received
1	Unsatisfactory results	0%
2	Less than fully satisfactory results	20%
3	Fully satisfactory results	60%
4	Exemplary results	80%
5	Outstanding results achieved	100%

Example		
Employee Base Salary		$100,000/year
Employee Target Bonus = 15%	Target amount = $100,000 x 15%	$15,000
Company Score = 4	Amount Available = 120% x Target	$18,000
Department Score = 3	Amount Earned = 60% of $9,000	$5,400
Individual Score = 4	Amount Earned = 80% of $9,000	$7,200
Bonus Amount Received		**$12,600**

Figure 5

Long-Term Incentive Compensation Investment Fund

According to its Compensation Plan, In-Q-Tel has established a long-term Employee Investment Program (EIP) to "…create a means by which In-Q-Tel can compete more effectively in the hiring and retention of employees with technology companies that offer their employees stock options and other equity-based compensation". In the technology sector, essentially 100% of companies offer some form of stock options, preferred stock, and/or an employee stock purchase program to their employees. Without a long-term compensation element, In-Q-Tel would have great difficulty attracting and retaining the quality employees that it requires to execute its business plan and to serve the needs of the CIA and others in the Intelligence Community. Moreover, the outcomes of In-Q-Tel's investments in, and contracts with, companies are a long-term index of In-Q-Tel's success in serving the Agency. Therefore, the EIP has the effect of aligning the interests of In-Q-Tel and its employees with the long-term goals of the Agency.

In-Q-Tel makes contributions to the EIP on behalf of each employee. Forty percent (40%) of these contributions are withheld for the employee's tax liability and sixty percent (60%) is placed in a venture fund ("the Fund"). The Fund is organized as a separate Limited Liability Company (LLC) that will co-invest in all In-Q-Tel investments and contracts that qualify as investments for the EIP. A qualifying investment is one that benefits the CIA (or other Agency or organization for which In-Q-Tel is performing services) and, consistent with In-Q-Tel's mission, has a potential commercial value. An example of a non-qualifying investment would be a service contract between In-Q-Tel and an independent contractor to develop testing criteria. The Finance Committee of In-Q-Tel's Board and the Fund's Board identify non-qualifying investments.

In-Q-Tel's Board of Trustees determines the total amount to be contributed into the EIP each year based on market analysis and targeted long term compensation levels for its employees. The amount invested is a set percentage based on In-Q-Tel's projected plan for investments in a year compared to the total contribution to the Fund authorized by the Board of Trustees. The percentage can be adjusted each quarter, but not on an investment-by-investment basis based on the perceived amount of return.

In-Q-Tel is a member (i.e., a partner) in the Fund and, as a member, will share in all the Fund's profits. In this way, the interests of In-Q-Tel, the Fund and the employee members of the Fund will never diverge. Even if In-Q-Tel, as an investor in its own right, disposes of its interest in a technology partner, the Fund retains its interest in the technology partner. In this way, if the employees of In-Q-Tel make money from the Fund, so will In-Q-Tel.

In addition to instituting a Conflict of Interest Policy, In-Q-Tel and its Board have implemented the following management control measures to avoid conflict of interest and related issues:

- Limiting participation in the Fund to only In-Q-Tel employees;
- Prohibiting In-Q-Tel Board members from participating in the Fund; and
- Instituting a Side-by-Side Investment Policy.

The Side-by-Side Investment Policy was approved, ratified and confirmed by the Board of Trustees effective March 13, 2000. This policy states, "No employee, officer or trustee of the Corporation, or the spouse or dependant of such an individual, may invest his or her own funds in any company in which the Corporation invests without prior approval of the Board."

The Panel Assessment

The Panel reviewed In-Q-Tel to determine if it had received a return for its dollars beyond the work products that had been delivered. While In-Q-Tel has not received a return on its equity investments to date, that expectation would not be atypical for a two-year-old commercial venture capital firm.

One of the reasons some view the In-Q-Tel model as attractive is its ability to leverage other people's money in delivering products to the government. When developing an IT solution under the traditional government model, the government funds the entire cost. In the In-Q-Tel model, other venture capital companies that have invested in the technology for its commercialization potential share the development costs. As of March 31, 2001, In-Q-Tel had leveraged 2.15 dollars for every dollar spent on equity, internal R&D, and entrepreneurial funded development.

The In-Q-Tel model is also advantageous because it can more easily prevent spending "good money after bad." Specifically, a project that was not producing the results that were intended was stopped, saving two-thirds of the contract value. Such action would not be likely to occur either in venture capital deals or in traditional government R&D contracts.

In-Q-Tel as an organization is a hybrid of different models; therefore, its compensation plan exhibits various salary and benefit components from those models. In-Q-Tel contracted with William M. Mercer to conduct a competitive compensation analysis for the CEO position. In a letter to In-Q-Tel's Human Resources Director, Mercer stated, "Total remuneration for the CEO position at In-Q-Tel, inclusive of base salary, annual incentive, and long-term incentives, as a package, is appropriate for In-Q-Tel's unique position in the marketplace." Although high compared to the public sector, the Panel agrees with Mercer's assessment that the CEO's compensation plan is appropriate and reasonable from a private sector perspective. This conclusion is valid for the compensation package of all In-Q-Tel employees as well.

In sum, the Panel concluded that the expenditures thus far made by In-Q-Tel are reasonable for the number of projects undertaken and the effort required to build In-Q-Tel from a start-up into a fully operational entity.

The Panel found that the personnel staffing level is reasonable given In-Q-Tel's mission, its CIA customer's expectations, and the bi-coastal environment in which it operates.

8 The Future of In-Q-Tel's Business Model

To determine the potential success of In-Q-Tel, the Panel evaluated several factors that will influence In-Q-Tel's future: the performance measures program, expandability and exportability of the In-Q-Tel model, and the factors associated with In-Q-Tel becoming more self-reliant. These are the primary areas that will advance or hinder the future of In-Q-Tel.

Shared Set of Performance Measures is Lacking

In-Q-Tel and QIC have struggled since the inception of In-Q-Tel to define performance measures. The Balanced Scorecard[19] method, used by many organizations as a framework for establishing measures, was tried by In-Q-Tel but has not been a resounding success. While retaining financial measures of past performance, the Balanced Scorecard introduces the measures of future financial performance, encompassed with perspectives from customers, analysis of internal business process, and learning and growth perceptions. The emphasis on financial and non-financial performance measures of the Balanced Scorecard should translate a business's mission and strategy into tangible objectives and measures. These measures should represent a balance between external measures for customers and, in this case, Congress, and internal measures of critical business processes.

Two Balanced Scorecards have been drafted; however, In-Q-Tel and QIC have not agreed to the measures delineated. Interviews revealed there is a lack of consensus between the two organizations as to which measures should be used and what goals should be associated with each measure. The lack of consensus is partially a result of Congress, the CIA and In-Q-Tel all evaluating "success" differently.

Recommendation: In-Q-Tel must update its performance metrics, making them specific to its mission and goals and shared by all stakeholders. The Panel recommends In-Q-Tel measure itself by its ability to accelerate technology insertion into the CIA, transfer solutions to the point of implementation, and establish financial progress toward self-sustaining operations.

Expandability and Exportability of the In-Q-Tel Model

Through the Panel's interviews, it became evident that agencies within the Intelligence Community are carefully watching the progress of In-Q-Tel. These organizations are considering the idea of importing the In-Q-Tel model or, at a minimum, expanding In-Q-Tel to meet the needs of their organization. In the early stages of formation, In-Q-Tel's Board of Trustees resolved, that in the near term, to only consider the CIA's Problem Set and receive funding solely from the Agency. The Board's reasoning for this determination was to ensure that In-Q-Tel's focus remained with its customer – the CIA.

[19] Kaplan, Robert S. and Norton David, P. The Balanced Scorecard – Translating Strategic into Action. Harvard Business School Press Boston, Massachusetts, 1996.

The ability for In-Q-Tel to operate in its current form is closely tied to specific legal authorities embodied in the CIA Act. Each governmental organization has specific legal authorities and restrictions. While legislation was not required for the Agency to form In-Q-Tel and collaboratively operate, it may be necessary for other entities. Therefore, each organization anticipating adopting this In-Q-Tel model will need to make its own case for adopting key In-Q-Tel concepts to support its mission delivery in forming an In-Q-Tel-like organization.

Recommendation: In-Q-Tel should not expand its mission until it is deemed to be a success in its CIA mission. However, solutions that solve a similar problem in another government organization—particularly in the Intelligence Community—should be shared. Elements of the In-Q-Tel business model may be exportable. Other government organizations must make their case for adopting key In-Q-Tel concepts to support mission delivery.

Self-Sustaining

In-Q-Tel has not realized a return on any of its investments—yet. A memorandum of understanding defines the allocation rules for net proceeds resulting from investments traceable to CIA funding, with 50% going to fund In-Q-Tel projects in the current "Problem Set," and the remainder to fund strategic IT initiatives that the CIA identifies, with the following priorities: (1) initiatives benefiting the CIA, (2) initiatives benefiting the Intelligence Community and (3) initiatives benefiting the federal government. There is no doubt that a "big win" could make In-Q-Tel self-sustaining.

One objective, although secondary to providing value to the Agency, is for In-Q-Tel to become increasingly self-sustaining. As In-Q-Tel becomes more financially self-reliant, the CIA's control over the entity becomes less fiscal and more contractual. That is, whereas today In-Q-Tel relies on an annual appropriation from the CIA through QIC, in the future the relationship will be strictly governed by what is negotiated in the annual contract, as well as by the Board of Trustees, the Charter, and mutual mission and interests. Further, control is provided by In-Q-Tel's standard project approval process, which includes review by the In-Q-Tel Review Board with QIC management serving as an advisor. The Panel views this relationship as standard arms-length business practice, but for an organization funded by taxpayer dollars, and authorized and appropriated by Congress, the relationship must reflect the highest standards of openness, trust and confidence.

Contained within the certificate of incorporation for In-Q-Tel are certain provisions to ensure operations of In-Q-Tel in the event of achieving self-sustaining status or dissolution. In-Q-Tel must operate exclusively for charitable, scientific and educational purposes. As for earnings, no part of the net earnings, current or accumulated of the Corporation can ever be used to the benefit of any stakeholder or private individual. In addition, "[u]pon termination, dissolution or winding up of the Corporation in any manner or for any reason, voluntary or involuntary, its assets, …shall be distributed to, and only to, the United States Government or one or more agencies of the United States Government."

Recommendation: The DCI, QIC and the In-Q-Tel Board of Trustees should begin planning now for changes that may be required in the annual contract and governance of In-Q-Tel in the event significant success occurs.

Repetitive Reviews of In-Q-Tel

In-Q-Tel has been reviewed several times since its creation. In-Q-Tel receives regular oversight from the QIC, who in turn reports results to Agency stakeholders. Both the Agency and In-Q-Tel are subject to oversight by a number of Congressional Committees, including the House Permanent Select Committee on Intelligence (HPSCI), the Senate Select Committee on Intelligence (SSCI), the House Appropriations Committee (HAC), and the Senate Appropriations Committee (SAC). In its two years of existence, In-Q-Tel has undergone an investigation by the Surveys and Investigations Staff Committee on Appropriations in the House of Representatives, an audit of its financial and managerial controls by the Office of the Inspector General Audit Staff, as well as this independent cost versus benefit assessment.

In addition, In-Q-Tel's Board of Trustees provides governance over the company. The Board reviews all areas of the organization, including the development and research function, commercialization, finance and human resources. Operating as an entity in the private sector, In-Q-Tel undergoes financial audits by a private accounting and auditing firm. Specifically, In-Q-Tel has undergone a financial statement audit by PricewaterhouseCoopers, LLP for the period of its inception through March 31, 2001, and has received an unqualified opinion for both fiscal years of its existence.

In-Q-Tel's charter expires five years from the date all signatures were recorded in July 1999. In-Q-Tel should be able to continue to operate pursuant to its charter and contract with the Agency without additional oversight reviews for some reasonable period. At this point, two years after the first contract with the Agency, it is too early to determine ultimate success or failure of In-Q-Tel. In the venture capital world, success or failure is typically measured, on average, five years after a venture has begun. In-Q-Tel's success—measured principally by insertion of technologies into the Agency, and its demonstrated ability to effect strategic change—should similarly be assessed during such a time frame.

Recommendation: Except for required audits and oversight, In-Q-Tel should be allowed to complete its initial business cycle without additional reviews. A full business case assessment should be required at the end of the charter agreement, July 2004.

The Panel Assessment

The In-Q-Tel model continues to evolve. During the course of the assessment, the Panel detected continual progression in the way In-Q-Tel chose its investment targets, dealt with its contractors and measured its own accomplishments. The venture has produced corollary benefits for the Agency that might not otherwise have emerged:

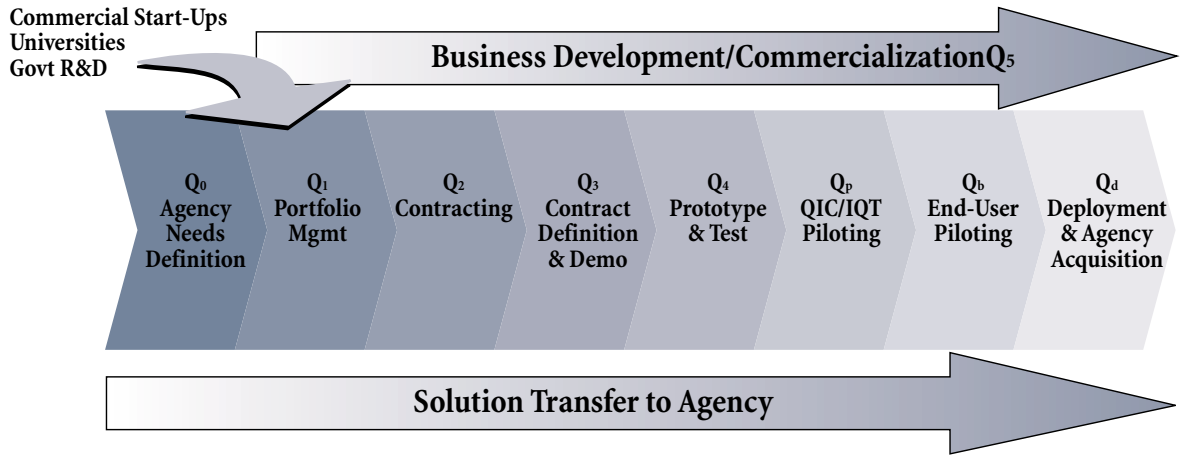
- QIC precipitated an Agency-wide review of the IT insertion process and the role played by the Agency's boards; and
- Apparently for the first time, IT needs statements were developed and shared across the entire Agency.

The Panel asserts that performance measures are a necessary aspect of managing an organization. It is the understanding of the Panel that In-Q-Tel and QIC are planning on developing and adopting agreed measures by September 2001.

The Panel believes the In-Q-Tel model must demonstrate additional maturity and success before its mission could be expanded. Stakeholders have commented that In-Q-Tel's focus on the Agency is an all-encompassing task, and it should remain so for the time being.

Finally, the Panel believes that the special nature of this public/private relationship demands that the DCI and senior CIA leadership work to maintain the trust of all stakeholders, relying on its confidence in In-Q-Tel's Board of Trustees and the Intelligence Oversight Panel (as proposed by this assessment) to guide In-Q-Tel through the crucial maturation of its business plan.

Appendix A
In-Q-Tel's "Q Process"



Q0 – Agency Needs Definition

The Problem Set represents the Agency's high-level strategic areas of interest for In-Q-Tel to pursue. To determine the Agency needs, QIC surveys technology leaders, service providers and users across the CIA to define an Agency IT Problem Set. Once the survey data is compiled, certain problems are eliminated because they are inherently classified and too specific in nature to describe in a declassified format. The remaining problems are generalized and combined into problem areas that form the Problem Set. QIC, in concert with the Advanced Information Technology Office and the Chief Information Officer, categorizes and prioritizes the problems sets, and provides "use scenarios." The Agency's Information Services Board (ISB), which provides programmatic oversight for information service developments with Agency-wide impact, reviews the draft Problem Set statement and comments or endorses it to the Agency's Executive Board. The Agency Executive Board approves the corporate CIA Problem Sets. During this stage, In-Q-Tel assists in evaluating the technical feasibility of technologies identified in the Problem Set development effort. The Problem Set is incorporated into the contract between the CIA and In-Q-Tel and is part of the description of work between the two entities.

Q1 – Technology and Market Analysis

This phase in the "Q Process" involves understanding the commercial potential. In essence, In-Q-Tel combs the commercial markets in order to landscape the technological "spaces" which it plans on engaging in to meet the Problem Sets. This landscape will include an analysis of companies, current projected valuations and latest developments in the market. This phase involves an ongoing engagement of In-Q-Tel into technical and venturing communities, which is often referred to as "swimming in the valley". Although In-Q-Tel does a good job of being known in Silicon Valley with an office in Menlo Park, California, it does engage many companies that are not in Silicon Valley. In addition, In-Q-Tel has had favorable media attention. This attention has attracted portfolio companies to seek out In-Q-Tel.

The Q1 phase consists of three technology assessment tiers. The first tier is to research the overall marketplace. The second tier is to research a proposed deal (more company-specific). The third tier is to continue evaluation of the solution prior to deployment at the CIA to ensure that it is still a sound technical option for the CIA at the time of transfer.

Q1 can also be referred to as the "dance phase," in which In-Q-Tel begins discussions with prospective portfolio companies. Discussion areas will include technology, the company's business plans and the type of investors currently investing in the portfolio companies. Unlike traditional venture capital firms, In-Q-Tel will tend to focus its discussions with prospective companies on the technology and the applicability of the technology to the Agency Problem Set. The commercialization of a product, the primary focus for a venture capital firm, is secondary for In-Q-Tel. In addition, during Q1 In-Q-Tel would start to discuss plausible work products for each company that will be negotiated during the next phase for investment dollars.

Q2 – Portfolio Management

In-Q-Tel is designed to manage multiple projects over a year. This phase is also referred to as the "deal phase" where In-Q-Tel matches the Problem Set by the Agency (Q0) to the knowledge it has about certain technology spaces and the "dance" that it has begun with certain portfolio companies (Q1). During this phase, the legal, technical and financial due diligence takes place. In addition, a contract is formed with the portfolio companies and a statement of work is drafted. Finally, an individual "deal" is negotiated between In-Q-Tel and the portfolio company, which involves a work product for a negotiated sum of money. The work product typically involves the company's technology advanced in a way that will meet the Agency Problem Set as well as have a potential commercial use.

Recently, In-Q-Tel has been able to negotiate ownership interests in these companies in addition to the work product. Therefore, investments are not made for investment sake; investments are always coupled with work products. Multiple stakeholders have been confused about this aspect of In-Q-Tel's model. The model does not allow investments for only a return on equity. Every investment must meet an Agency need within the Problem Set and must be coupled with a work product. Therefore, In-Q-Tel is always receiving the negotiated work products for its investments.

Q3- Concept Definition & Demonstration

While negotiation of deals occurs during Q2, the final contract is signed during the Q3 phase. In addition, throughout the Q3 phase, the technology is being tested and feedback is being provided between the portfolio company and In-Q-Tel as well as between In-Q-Tel and QIC. During this phase, technology solutions are analyzed to ensure that additional funds do not follow bad initial decisions. During the course of the Q3 phase, solutions are vetted, measured and demonstrated against perceived Agency needs.

Q4 – Prototype and Test

This phase involves developing prototypes in response to "use scenarios" as well as development of a testing regimen for the new technology. By using unclassified use scenarios to validate the development of the contemplated technology, In-Q-Tel and QIC are playing an important role in bringing the unclassified and classified world together. Emulating the environment of the CIA during this phase is important to enable true testing of outside technology. For example, the Agency workspace has been reproduced for "eCollection" projects by replicating the type and amount of data an "eCollection" technology would most likely work against. Currently, IT companies and smaller start-ups do not have access to an environment that properly imitates the Agency's environment. During this phase, the technology can be tested and some operational problems can be corrected before the solutions are brought to bear on the Agency priority problems and end-users.

Qp - QIC/In-Q-Tel Piloting

This phase involves bringing the technology into the Agency on a limited basis. During this phase of piloting within the Agency, In-Q-Tel, QIC and the portfolio company work together to determine potential adjustments or changes to the technology to meet the existing architecture. However, continual communication through the process will refine solutions throughout the development of the technology.

Q5 – Commercialization

One of the distinguishing aspects of In-Q-Tel is that it seeks projects that are believed to meet an Agency need as well as become commercially viable. The commercial viability of a technology will provide opportunity costs to the portfolio company while significantly reducing the total cost of ownership and acquisition time for the Agency. In addition, commercialized products are often updated and technical assistance is more readily available which reduces the operations and maintenance costs for the Agency. Customized solutions solely for the Agency increase the cost of solution implementation and would not give the Agency the full advantage of quickly benefiting from emerging technologies. By playing an advisory role in the commercialization of products In-Q-Tel and QIC are ensuring better Agency use of the products in a cost effective manner. In order to ensure that the Agency's solutions are consistent with the creation of commercial viability and value, commercialized concerns must be introduced throughout the entire process to assess whether continued efforts should be made with the project.

Qb – End-User Piloting

Key to the In-Q-Tel solution development process is the transitioning of solutions into the Agency for implementation. This phase, which occurs within the Agency with the end user, is one that

Appendix B
Problem Sets

The FY 1999 Problem Set

The technology needs proposed for the initial Problem Set, provided to In-Q-Tel in June 1999, are depicted in Figure 7.

Agency Use of the Internet	Information Security
• Secure Information Receipt	• Security evaluation methodology
• Non-Observable "Surfing"	• Network connections (& Internet)
• Anonymous contact	• Adaptive threat detection
• Authentication	• Sources and methods
• Content Verification	
• Resist Hacking	
Data Processing Analysis and Knowledge Generation	**Distributed Architecture**
• Ingest incoming data	• Legacy Systems
• Flexible Search	• Incompatible Applications/ Databases
• Flexible Range of Analytic Capabilities	• Performance and Scalability
• Automatic Identification of Relationships	• Archived Paper Records
• Computer Data Forensics	
• Structure of Information	

Figure 7

The FY 2000 Problem Set

Figure 8 depicts the Agency's FY 2000 Problem Set, provided to In-Q-Tel in March 2000.

Priority	Important
• Secure Mobile Office	• Multilevel Security
• Search Scope and Accuracy	• Self-protecting Data
• Information Organization	• Access Management
• Adaptive Threat Detection	• Information Push
• Open Source Search	• Link Analysis
• Internet Privacy	• Visualize/Display Information
• Digital Media Recovery/Analysis	• Maps/Geospatial Information
	• Project/Collaboration Portals

Figure 8

The FY 2001 Problem Set

The most recent Problem Set, depicted in Figure 9 is grouped into dependent problems and

standalone problems. Dependent problems involve end-to-end support for mission areas within the Agency. Stand-alone problems focus on specific issues that are important within a mission area.

Dependent Problem Areas	
Secure Mobile Office (SMO)	These are technologies that will allow officers to securely use mobile computing devices when outside the headquarters area. SMO will protect the Agency from loss of data if a laptop or PDA is lost, stolen or tampered with. • Robust authentication methods; • Secure boot and integrity techniques to ensure that the system starts and stays in a known and trusted state; • Software and hardware tamper detection techniques; • Protection techniques for stored data or data in transit; • Wireless security.
Web Discovery	Technologies that will allow the Agency to utilize more fully the information that is freely and openly available on the Internet. • Finding information from across the entire Internet, not just the information indexed in popular search engines; • Building and managing a Web Reference Guide; • Support for foreign language; • Creating an archival strategy and implementation; • Ensuring network security.
Analytic Foundations	Technologies to support analysis in four tiers: • A scalable, high-performance, highly available hardware architecture; • Data ingestion and indexing to enable search and the use of special tools; • Integration of multiple search techniques and enhancing search using XML; link analysis and GIS tools and integration of these; • Special visualization techniques. These technology initiatives should complement Agency search portal and volume architecture projects.
Stand-alone Problem Areas	
Internet Privacy	Technologies that will protect individual privacy, including identity and confidentiality of information, as well as organizational privacy, including protection of corporate interest areas.
Business to Web	The Agency is in the midst of a complex transformation from legacy information systems to Internet and intranet based systems. Similarly, it is transforming many of its processes to take advantage of the opportunities offered by new technologies. This effort seeks to identify opportunities for technology creation and insertion within the support elements of the Agency.
Collection tasking and satisfaction	The Agency manages a complex system whereby requests for information must be tracked over time against information that is collected on various topics. In addition, most collected information relates to multiple intelligence issues. Because of the volume of information, an automated matching and tracking method is needed.
Collection technology	The Agency participates in a diverse range of collection activities ranging from technical to human. Occasionally, commercial technology appears which is relevant to this mission. In-Q-Tel should support technology that may be helpful to the Agency's role in this area.
Secure network	The Agency connects networks and systems that operate across a range of security levels. In particular, the Agency needs to: • Ensure that highly classified information is not deliberately or accidentally transmitted to lower level networks; • Provide support for a trusted gateway; • Enhance self-protecting data concepts with watermarking, auditing, and non-repudiation technologies.

Figure 9

Appendix C
List of Appearances and Interviews

In-Q-Tel

Gilman Louie, President and Chief Executive Officer
Lee Ault, Chairman of the Board

Bruce A. Adams, General Counsel
Norman R. Augustine, Board Member
Dominique Brezinski, Associate Vice President of Technology
Dr. Michael Crow, Board Member
Andrew Halliday, Executive in Residence
Nancy Kaplan, Director, Human Resources
Eric Kaufmann, Associate Vice President
Dr. Jeong Kim, Board Member
Steven Mendel, Senior Vice President
Terry Quan, former Financial Analyst
Ronald B. Richard, Chief Operating Officer
Christopher Tucker, Chief Strategic Officer
Michael E. Tyrrell, CPA, Vice President and Chief Financial Officer
Clarke Wallace, Director of Program Development
Timothy G. Zayac, Law Clerk

Intelligence Community

Director

George Tenet, Director of Central Intelligence

Community Management

Joan Dempsey, Deputy Director of Central Intelligence

Charlie Allen, Assistant Director of Central Intelligence/Collection
John Gannon, Assistant Director of Central Intelligence/Analysis and Production and Chairman, National Intelligence Council
Jim Simon, Assistant Director of Central Intelligence/Administration

Central Intelligence Agency

Office of Inspector General

5 Members

Office of General Counsel
Robert McNamara, General Counsel
Thomas J. Benjamin, Former Deputy General Counsel

National Intelligence Council
2 Members

Executive Director
A.B. Krongard, Executive Director
Alan Wade, Chief Information Officer
3 Additional Members

Directorate of Administration (DA)
2 Members

Directorate of Intelligence (DI)
Winston Wiley, Deputy Director for Intelligence
James A. Reid, Director, Office of Support Services
6 Additional Members

Directorate of Science and Technology (DS&T)
Joanne Isham, Deputy Director for Science and Technology
Larry Fairchild, Director, Advanced Information Technology
Gina Genton, Director, Foreign Broadcast Information Service
Dr. John R. Phillips, Chief Scientist
8 Additional Members

In-Q-Tel Interface Center (QIC)
Thomas J. Benjamin, Director
Terrill D. Maynard, Former Director
9 Additional Members

Directorate of Operations (DO)
James Pavitt, Deputy Director for Operations
6 Additional Members

Former Central Intelligence Agency Employees
Sue Gordon, Former Director, In-Q-Tel Interface Center
Evan Hineman, Vice President, Intelligence, Litton TASC, Former Deputy Director for Science and Technology
Dr. Gerry Kowalski, Former Chief Senior Scientist for Foreign Broadcast Information Service (FBIS)
Dr. Ruth A. David, President and Chief Executive Officer, ANSER, Former Deputy Director for Science and Technology
John Young, Director, ESRI, Former Chief Information Officer

National Security Agency
General Michael Hayden, Director

Portfolio Companies

Jon A. Chun, President and Co-founder, Safeweb
Kathy A. De Martini, President and Chief Executive Officer, MediaSnap, Inc.
Lawrence H. Goldstein, Ph.D., Vice President, Product Management, graviton
Jeff Harrison, Director, Interoperability Program, Open GIS Consortium
Lewis Hecht, Vice President, Business Development, Open GIS Consortium
Stephen Hsu, Chief Executive Officer and Chairman, Safeweb
Jeff Jonas, President, Systems Research and Development
Gregory R. Lloyd, President, Twisted Systems, Inc.
Christopher Nuzum, Vice President, Twisted Systems, Inc.
Joseph W. Mahaffee, Vice President, Booz-Allen & Hamilton Inc.
Paul Pattak, Co-founder, Digital Data Development

House Committee on Appropriations

Congressman Jerry Lewis

Elizabeth Phillips, Staff Assistant, Subcommittee on Defense
Robert J. Reitwiesner, Deputy Director, Surveys and Investigations Staff
Bob Seraphin, Investigator, Surveys and Investigations Staff
Bill Vandergrift, Jr., Chief and Director, Surveys and Investigations Staff
Derek VanderShaaf, Investigator, Surveys and Investigations Staff

House Permanent Select Committee on Intelligence

Congressman Porter Goss, Chairman

Beth Larson, Professional Staff Member
Michael Meermans, Deputy Staff Director
Timothy Sample, Staff Director

Senate Select Committee on Intelligence

Randy Bookout, Professional Staff Member
Ken Johnson, Professional Staff Member

Arnold and Porter

James Joseph, Partner
Rosemary Maxwell, Special Counsel
Jeffrey H. Smith, Senior Partner

Others

John Evans, Technical Director, Electronic Systems Center, US Air Force
Tom Frederick, General Partner, Venrock Associates

Rahul Gupta, Assistant Director, Center for Technology and Engineering, General Accounting Office
Lt. General Patrick M. Hughes, USA, Director, Defense Intelligence Agency (ret.), President, PMH Enterprises LLC
Peter Marino, Consultant
Dr. Joe Markowitz, Consultant
Lt. General Thomas G. McInerney, Assistant Vice Chief of Staff, US Air Force (ret.)
Lt. General Kenneth A. Minihan, US Air Force, Director, National Security Agency (ret.), President, Security Affairs Support Association
Anthony G. Oettinger, Chairman, Director of Central Intelligence Advanced Technology Panel
George J. Pederson, Chairman and Chief Executive Officer, ManTech International Corporation
Keith Rhodes, Chief Technologist, Center for Technology and Engineering, General Accounting Office
David Signori, Senior Policy Analyst, the RAND Corporation
Robert David Steele, Chief Executive Officer, Open Source Solutions, Inc.
Paul Wyeths, General Partner, Sutter Hill Venture Partners

Appendix D
The Panel and Assessment Team

The Panel

C. Lawrence Meador, Chairman, Clinician Support Technology *(Panel Chairman)*
W. Allen Barnett, President, Riverside Underwriting Capital, Inc.
Leonard A. Batterson, Chairman and CEO, Batterson Venture Partners
Raphael Benaroya, Chairman and CEO, United Retail Group, Inc.
Denis A. Bovin, Vice Chairman, Investment Banking, Bear Stearns & Company, Inc.
Neill H. Brownstein, Special General Partner (Ret.), Bessemer Venture Partners
James A. Cannavino, Chairman and CEO, CyberSafe Corporation
Daniel H. Case, III, Chairman of the Board and CEO, Chase H&Q
Marshall N. Carter, Chairman (Ret.), State Street Corp.
Howard Cox, General Partner, Greylock
James W. Down, Vice Chairman, Mercer Management Consulting, Inc.
David L. Feigenbaum, Principal, Fish and Richardson, P.C.
Arthur E. Fillmore, II, Partner, Craft Fridkin & Rhyne, LLC
Bart Friedman, Partner, Cahill, Gordon & Reindel
William Gravell, Director, Information Assurance, TRW
Daniel Greenberg, Chairman and CEO, The Greenberg Foundation
Norman M. Hinerfeld, Chairman and CEO, The Delta Group
The Honorable Steven S. Honigman, Partner, Thelen Reid & Priest LLP
Deborah Lee James, COO, BENS
Naveen Jain, Chairman, InfoSpace, Inc.
Joel M. Koblentz, Managing Partner, Egon Zehnder International, Inc.
Kathleen A. Kurre, Former President & CEO, Intellego Corp.
Jonathan E. Lewis, Portfolio Manager, OFFITBANK
Zenon S. Nie, Former Chairman & CEO, Simmons Company
Kenneth J. Novack, Vice Chairman, AOL Time Warner, Inc.
Admiral William A. Owens, USN (Ret.), Vice Chairman of the Board, Teledesic LLC
Kenneth W. Rind, General Partner, Israel Infinity Venture Capital
Mathis H. Shinnick, Managing Director, Deloitte and Touche Corporate Finance LLC
Major General Thomas A. Wessels, USAR Vice President, Private Client Group, Merrill Lynch
John R. Whitman, Managing Partner and Founder, Sycamore Ventures

BENS Staff

Lisa Beverly, Policy Analyst
Linda Millis, Vice President
Paul Taibl, Assistant Vice President

Consultants

Martin C. Libicki, Senior Policy Analyst, the RAND Corporation
Kristen M. Mattingly, Senior Manager/Deputy Director, Information Technology Consulting, Grant Thornton LLP
Lorraine Mullings, Esq., Senior Consultant, Global Government Group, Grant Thornton LLP
Kevin O'Connell, Manager of Intelligence Community Programs, the RAND Corporation
Diane Shute, Partner, Grant Thornton LLP
Paul Wholleben, Partner, Grant Thornton LLP

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