SUBCOMMITTEE ON CONTRACTING AND TECHNOLOGY HEARING ON HELPING SMALL BUSINESS INNOVATORS THROUGH THE RESEARCH AND EXPERIMENTATION TAX CREDIT

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CONTENTS

OPENING STATEMENTS

	Page
Nye, Hon. Glenn	1
Schock, Hon. Aaron	3

WITNESSES

Heenan, Mr. Bart, Chief Executive Officer, Morphix Technologies, Virginia Beach, VA	4
Ferros, Mr. Scott, Chief Financial Officer, Blackhawk!, Norfolk, VA	6
Wilson, Mr. Doug, Executive Vice President, LifeNet Health, Virginia Beach, VA	8
Schoenbach, Dr. Karl, Frank Reidy Research Center for Bioelectrics, Old Dominion University, Norfolk, VA	9
Barrett, Mr. Ned, President, Direct Logic Solutions, Peoria, IL	11
Bendis, Mr. Richard, President & Chief Executive Officer, Innovation America, Philadelphia, PA	13

APPENDIX

Prepared Statements:

Nye, Hon. Glenn	20
Schock, Hon. Aaron	22
Heenan, Mr. Bart, Chief Executive Officer, Morphix Technologies, Virginia Beach, VA	24
Ferros, Mr. Scott, Chief Financial Officer, Blackhawk!, Norfolk, VA	29
Wilson, Mr. Doug, Executive Vice President, LifeNet Health, Virginia Beach, VA	36
Schoenbach, Dr. Karl, Frank Reidy Research Center for Bioelectrics, Old Dominion University, Norfolk, VA	39
Barrett, Mr. Ned, President, Direct Logic Solutions, Peoria, IL	41
Bendis, Mr. Richard, President & Chief Executive Officer, Innovation America, Philadelphia, PA	44

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Thursday, July 9, 2009

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON SMALL BUSINESS,
Washington, DC.

The Subcommittee met, pursuant to call, at 10:10 a.m., in Room 2360, Rayburn House Office Building, Hon. Glenn Nye [chairman of the Subcommittee] presiding.

Present: Representatives Nye and Schock.

Chairman NYE. Good morning. Let me just go ahead and open this hearing. I am going to start with an apology. We are going to have votes relatively soon and so we are going to be interrupted. We are going to get as far as we can through the opening statements and then we will have to go vote, and then I will get us back and start us right as soon as we get through the first cycle of votes. Again, so apologies ahead of time. I am going to ask for a little bit of patience today, but we will get everybody a chance to say what they need to say.

I want to go ahead by just starting with an opening statement. And again, welcome to all our panelists today.

Yesterday afternoon, the House voted on legislation to strengthen the SBA's small business innovation programs. And in debating that bill, the same two themes kept coming up over and over again, job creation and economic growth. Those are areas in which our country has traditionally excelled, thanks largely to an emphasis on research and development. And today, even as our economy moves towards recovery, we need to be focused on the kind of innovation that can unlock new markets and create new jobs. The Research and Experimentation Tax Credit, commonly known as the R&D tax credit is a tested means for doing just that.

Targeted tax relief is an important tool for encouraging small business growth and also an effective catalyst for innovation. In the past, the R&D tax credit has encouraged countless entrepreneurs to test the waters of innovation. And today we are going to look at that incentive and evaluate its role in strengthening small firms.

Any investment in small business R&D goes a long way. That is because entrepreneurs are already more inventive than their larger competitors. Small firms produce 13 times as many patents as big businesses, and have a history of pioneering new markets. We can

remember the tech boom in the 1990s wasn't a corporate success story as much as a small business revolution, one that saw the rise of lucrative new industries, such as on-line advertising. But we must also remember that innovation isn't just about developing the latest technology, it is about creating jobs.

70 percent of R&D credit dollars go to high wage positions for researchers, scientists and engineers. Because small firms employ nearly 40 percent of these professionals, it is safe to say that R&D job growth is small business job growth. And with unemployment now hovering at 9-1/2 percent, we need every job we can get. Incentives for innovation are an important means for keeping current workers on payroll and putting unemployed Americans back to work. They also make good economic sense. According to one study, every dollar in R&D tax credits yields another $2 in research.

Clearly, this credit is doing a great deal of good for our economy. And yet, despite its obvious benefits, there is concern that it is not accomplishing as much as it could for entrepreneurs. That is a real issues because roughly 40 percent of the businesses that claim this credit are small firms.

Perhaps the greatest shortcoming in the R&D credit is its lack of permanence. In the nearly three decades since its inception, the incentive has never been cemented. Instead, it has been reauthorized 1 year at a time, often at the last minute, retroactively, and after the credit has expired. Now, if that sounds convoluted, it is because it is. And needless to say, these actions have added an element of uncertainty to an already risky R&D process. Making the tax credit permanent could mitigate that risk, giving entrepreneurs the stability they need to plan budgets and attract investment. Meanwhile, a move to unravel some of the credits complexity could also be a big help. By simplifying the process, we could cut down on paperwork and ease compliance costs. Doing so would likely encourage more small firms to participate in R&D, helping them to develop more new products and create more new jobs.

Kitco Fiber Optics, a business based in my district, who unfortunately could not make it here today, is just one example of a small business which qualifies for the R&D tax credit, yet does not receive the credit. The president and CEO of KITCO, Geoff Clark, has told me that due to the uncertain nature of the current legislation, his business has not made the initial investment to hire accountant who specializes in R&D tax credit dealings to go through their accounting books in order to determine what would qualify for this credit. And my hope is that taking action to both simplify and make permanent the R&D tax credit would encourage KITCO and other small businesses to use the incentive to increase their growth and productivity.

The strength of our economy has always been driven by the innovation and hard work of our small entrepreneurs, and as we work to create jobs and get our economy moving again, we must once again look to small business to lead the way.

By strengthening the R&D tax credit, and cutting taxes for small businesses, we can give our most inventive firms the tools they need to innovate and grow. And most importantly, as we face increased competition from abroad, continued investment in R&D

will help us retain our standing as home to the world's greatest technological advances.

I would now like to thank today's witnesses in advance for their testimony. I know that we are all looking forward to hearing from them.

And with that, I would like to go ahead and recognize our committee ranking member, Mr. Schock, for any opening statement that he might have. And again, apologies for the fact that we will have to break to go vote relatively soon. But we will see how much we can get done before that. Mr. Schock.

[The statement of Mr. Nye is included in the appendix.]

Mr. SCHOCK. Well, thank you Mr. Chairman. I apologize for my tardiness. We have had, as you know, a very busy morning already and we will have a busy morning.

So thank you to the witnesses who are here this morning and for Mr. Chairman, for holding this meeting to further study the impact of the research experiment or the, what we call the R&D tax credit, and what effect it is having on our Nation's small businesses.

I would also like to thank each one of our witnesses for having taken the time to provide this committee with their testimony and travel all the way to Washington here today.

The R&D tax credit has been available for businesses large and small for over 20 years. And during that period, tens of thousands of companies have used this important provision of the Tax Code to help reinvest and grow their businesses, encouraging more American ingenuity and domestic jobs.

Now, more than ever, we must be focused on providing appropriate incentives to those companies, which will help grow our economy and make a sustained commitment to conducting long term, high cost research right here in the United States.

The R&D tax credit is positive motivation for U.S. investment, innovation and something which will help to contribute to a stronger economy and a higher standard of living for American workers. Simply put, the R&D tax credit stimulates immediate business investment decisions with long term benefits to the U.S. economy.

Since the R&D credit is only available for research performed in the United States, it remains a job creator that cannot be exported. As such, the credit is certainly needed, especially as foreign governments continue to actively recruit American companies to base research operations at a low cost option abroad.

Regrettably, Congress has repeatedly failed to provide long term insight to extend this credit beyond just a few short years. The fact that the R&D credit has proven itself popular enough to be extended 13 times is all the evidence this Congress needs to know that we should stop playing games and make the credit permanent.

Again, the R&D tax credit is scheduled to expire at the end of this year, and, again, small businesses are being pushed into a scenario where saving proves wiser than investing for growth due to the lack of certainty of the continued extension of this credit. With such confusion, businesses are unable to factor the full benefits of the R&D credit into their research budgets, long term commitments and their capital needs.

The bottom line is that either a longer extension or permanency of the R&D tax credit would create and help high paying U.S. jobs

and allow for better planning by our Nation's business. I am optimistic that today we will hear from those small businesses that are directly affected by this tax credit. I look forward to hearing all of you regarding the necessity of R&D tax credit, as well as specific changes so that we can continue to incentivize the risk-taking entrepreneurship and investment necessary to grow our economy and create good paying American jobs.

I yield back, Mr. Chairman.

Chairman NYE. Thank you, Mr. Schock. I am going to go ahead and introduce the panel members one by one. We are going to ask you to try to get your remarks into the 5-minute window, if you can. And you will notice in front of you a set of lights which will be green for 4 minutes, yellow for the final minute, and then will turn red when 5 minutes is up. If we get to the end, we would ask you to try to go ahead and conclude as quickly as you can.

I want to start by introducing Mr. Heenan, CEO of Morphix Technologies, based in Virginia Beach, Virginia. As the CEO, Mr. Heenan leads the strategic direction and day-to-day operations of the company.

Morphix Technologies provides innovative gas detection products to military, first response, and industrial users throughout the world. And again, thank you for being with us today. Mr. Heenan, you are recognized.

STATEMENT OF BART HEENAN

Mr. HEENAN. Thank you, Chairman Nye and Ranking Member Schock.

Good morning. It is my pleasure to be here. And I appreciate your leadership on this important issue to small technology businesses.

Morphix Technologies was formed in 1995. We make chemical detection products that have the potential to save lives for military, for first responders and for industrial workers. Our niche is providing low cost, rugged, easy to use chemical detection devices that your average cop, your average 18-year old who goes and volunteers to serve in our military can use with minimal training. We now employ 35 people, 15 of whom are scientists and engineers, five of them have Ph.Ds.

As a business person, I am really not in a position to recommend policy. However, I would like to share with you some of my thoughts of the practical implications and practical issues I see with the R&D tax credit. Clearly, as you have already stated, the R&D tax credit has a big impact on America's competitiveness, can have a big impact on job creation.

At Morphix, 85 percent of our R&D is labor cost. And those are good paying jobs. A well functioning R&D tax credit, I think, can help small businesses maybe increase their science staff by five to 10 percent. However, the companies need to believe in the R&D tax credit.

Frankly, at Morphix, we don't have that confidence in the R&D tax credit on a regular basis, so we haven't gone out and hired that additional scientist or additional engineer that we might otherwise hire from the R&D tax credit, and there are three main reasons for that that I would like to share with you.

The first both of you have already addressed and that is the permanence issue. That impacts all companies participating in the R&D tax credit, so I am not going to discuss that any further. You have already discussed that very well.

The second and third issue are both, I think, very specific to small companies. And the first of those is that there is a significant administrative burden for small companies to be able to take advantage of the R&D tax credit. That administrative burden is not just going out and hiring a tax accountant, but it is having the accounting systems in place that allow you to do what you need do to comply to the IRS regulations. Most large companies have those accounting systems in place.

In my experience, most small companies do not. So it is not just an investment once a year in a tax accountant. It is actually a big investment of changing the infrastructure of the company, and that is a very, very difficult issue for many small companies.

The next and last issue I would like to highlight is probably the one that is most important to me personally, and that is the impact of the alternative minimum tax or AMT relative to the R&D tax credit. This issue is really, I think, pretty simple, and that is that many small businesses, including mine, are taxed through the individuals' income tax, not through a corporate income tax. Large companies are often taxed through corporate income tax, small companies more through individual tax.

If the individual owners, the business owners, who are being taxed through their individual tax return are subject to the AMT, they are not allowed to take the R&D tax credit. As a result, I think many business owners feel that it is not worth the effort to go after the R&D tax credit because they are not really going to get the result.

Let me give you an example, my personal example. At Morphix, we have spent well over a million dollars in R&D over the last 3 to 4 years. My share of the taxes we have paid for income and employment taxes has been in the hundreds of thousands of dollars, and I have personally been able to take $138 in R&D tax credit over that time period. That is really not much of an incentive to go and do something that is going to employ the people and do the things that the R&D tax credit is intended to do.

In summary, I fully support the R&D tax credit. I think it is a powerful engine for employment growth, a powerful engine for competitiveness of the country. For the reasons I outlined above, I believe that small technology businesses are generally not fully utilizing the tax benefit to their full advantage. And of course, if companies aren't taking the R&D tax credit, then it is not achieving its economic and social benefits that it is intended to take.

I would ask the committee to consider three things: One, make it permanent, two, simplify the administrative burden for small businesses, and three, try to address the AMT issue relative to the R&D tax credit.

Thank you for your time.

Chairman NYE. Thank you, Mr. Heenan.

[The statement of Mr. Heenan is included in the appendix.]

Chairman NYE. I would now like to introduce Mr. Ferros. Mr. Scott Ferros, Chief Financial Officer for Blackhawk, located in Norfolk, Virginia.

Blackhawk was founded in 1995 by a former U.S. Navy SEAL, Mike Knoll. The company is recognized as a world leader in supplying tactical equipment to the military and law enforcement markets.

Mr. Ferros.

STATEMENT OF SCOTT FERROS

Mr. FERROS. Chairman Nye, Ranking Member Schock, and the distinguished members of the Contracting and Technology Subcommittee of the House Small Business Committee, happy to be here today.

Again, my name is Scott Ferros. I am the Vice President and Chief Financial Officer for Blackhawk in Norfolk, Virginia, based veteran owned small business. Thank you again for allowing me the opportunity to share my views on the merits of the research and experimentation tax credit.

As a certified public accountant with over 30 years of varied public accounting and industry experience and the chief financial officer of a highly innovative small business, I feel somewhat uniquely qualified to convey to you some of my observations on the R&D credit.

As I am sure you already know, which I have experienced time and time again, tax policy does significantly influence taxpayer behavior. With respect to the R&D credit, I believe the economics of the credit stimulate product innovation related spending. However, the ongoing temporary nature of the legislation, along with administrative complexities of the program, do create an uncertainty for all users; and there is a punitive cost to compliance issue that will limit the use for very small businesses.

As we meet here today, I would like you to consider a couple of simple recommendations. First, recognize the economic benefits most companies do derive from the program; second, make the R&D credit permanent law; and third, work to simplify the compliance process.

Blackhawk is a 16-year old company with a history of developing new and innovative product solutions which we believe enhance the effectiveness and safety of our primary end users, the warfighter and the law enforcement officer. It is our collective opinion at Blackhawk that the economic benefits of the R&D credit allowed under the Internal Revenue code have helped enable our company to grow from a very small entrepreneurial run business to a product development driven organization that now employs over 300 people throughout the United States and sells thousands of products to military and law enforcement professionals on a global basis.

Blackhawk has utilized the R&E credit since 1999. During this 10-year period, the company has successfully developed several hundred new products and increased payroll related research and experimentation expense from approximately $200,000 in 1999 to over $5 million in 2008. During that time, while credits increased

from roughly 15 to over $300,000 last year, the gross revenue, subject to Federal and State tax, grew ten-fold. Much of this increase that we have experienced has been driven by new products introduced as a result of the R&D process, which leads us to believe that the payback to the government far surpasses the cost of the program.

While the benefits of the program appear clear, the temporary nature of the credit has caused uncertainty, and the compliance complexities have created barriers of entry in a cottage industry supporting the compliance.

The R&E credit was originally enacted as part of the 1981 Economic Recovery Tax Act, and has been revised and amended in the years since through many updated tax acts, but remains still temporary. The continuance of the credit is a frequent topic of discussion and speculation between businesses, tax advisers, Members of Congress, and the Department of Treasury, creating an air of uncertainty for all parties involved.

We believe that making the credit permanent would encourage more companies to use this credit and, therefore, stimulate research.

Finally, the tax credit and the expenses are addressed in Internal Revenue Code sections 41 and 174, as well as the corresponding regulations. The source of the law is well over 100 pages in length, which does not include the thousands of court cases and other rulings pertaining to the same topic. An editorial discussion by the Bureau of National Affairs is nearly 300 pages in length, as evidenced by the massive volume of law compliance and access to the credit is extremely difficult. The complexity has given rise to a cottage industry of tax advisers who specialize exclusively in quantifying and reporting the credit.

In our case, we justify the compliance and consulting costs to report the credit. However, quite, frankly the professional services associated with this credit are expensive and, I believe, prevent smaller entrepreneurs from benefiting.

At Blackhawk, we have a well organized and disciplined R&D division with remarkable employees and distinct financial reporting. Even with this unique organization, we are required to produce contemporaneous documentation to support our activities for the sole purpose of qualifying for the credit. And while we have sufficient size to benefit from the credit, it is not always the case, and it was very difficult when we were a small company.

We believe there are many barriers that prevent smaller and younger companies from claiming this credit, not the least of which are the complexities, the compliance costs, the Alternative Minimum Tax and the net operating loss limitations.

So, Mr. Chairman, and members of the committee, we strongly recommend that easing these barriers will permit more and smaller companies to claim the credit and drive the innovation within the United States.

This concludes my prepared statement. And again, thank you for the opportunity to testify to the committee today. And I look forward to answering any of your questions.

Chairman NYE. Thank you Mr. Ferros.

[The statement of Mr. Ferros is included in the appendix.]

Chairman NYE. Mr. Schock, if you don't have any opposition, I am going to go ahead and invite Mr. Wilson. I think we have time to get one more person's opening statement before we will have to go take some votes.

So Mr. Wilson, thank you for joining us today.

Mr. Doug Wilson is the Executive Vice President of LifeNet Health in Virginia Beach, Virginia. LifeNet Health is a no profit organ procurement organization providing donation systems for heart, liver, kidney and other organs for transplant.

And Mr. Wilson, thank you for joining us today. Please.

STATEMENT OF DOUG WILSON

Mr. WILSON. Good morning, Congressman Nye, and Congressman Schock. Thank you for having us.

Research has played a significant role in LifeNet Health's past, and it will play a significant role in our future.

Today LifeNet Health is the largest nonprofit full service tissue provider in the United States. And since our formation in 1982, LifeNet Health has pioneered technologies through a strong and unwavering commitment to research designed to ensure safety in allograft screening, recovery, cleaning and delivery. Allograft tissue is tissue donated from the gift of tissue donation at the time of one's death. LifeNet Health processes this tissue into implants for surgeons to use in their patients who are suffering from a disease or a specific injury.

Our innovative processes have been benchmarks in the industry. Allograft tissues are actually transplanted in nearly every hospital, every day, specifically, in orthopedics, trauma care, neurosurgery, cardiac surgery and vascular surgery.

Key to today's hearing is the following: LifeNet Health works closely with many for profit companies, both in research as well as in the distribution phases of our product life cycles. In some cases we rely on them, and we will continue to rely on them for their capital investments through contractual programs and joint ventures for research into new bioimplant technologies leading to new and improved clinical products. In many cases, these companies provide LifeNet Health, a nonprofit, with the necessary capital to enhance our research and our production efforts, carry the products through the regulatory process, and the product development cycle.

The research tax credit in its many forms can be a factor in the investment decision by our for profit partners. Most of our new products, particularly those emanating from regenerative medicine, are very long time horizon projects and they have high fixed costs. Thus, permanence of the tax credits could reduce the risk for the investment and distribution partner that we may solicit.

Equally important, permanence provides an environment in which our for profit partners can plan and forecast with more confidence long term. The use of the tax credits allows LifeNet, through our partners, to have flexibility in the selection of projects and products to fund, especially those who have high social value and long term impact on our society.

Future R&D will ensure better patient care and, more importantly, optimized economic options for hospitals which they need. LifeNet Health's commitment to safety and quality and patient out-

come is evident in everything we do, including ongoing research and development efforts. We have more than 45 patents that include cleaning technology which is the industry standard in tissue banking.

As a result of our R&D work, LifeNet Health has distributed nearly 2 million allografts with no incidence of disease transmission linked to tissue screened and processed by LifeNet.

As part of our ongoing commitment to bio-implants, LifeNet Health recently announced the LifeNet Health Regenerative Medicine Institute. The focus of the new institute will be to utilize our current technologies, coupled with the latest in stem cell and growth factor development, to yield new generations of more clinically effective implants. For these lofty projects going forward, LifeNet Health will surely establish alliances with for profit organizations for co-development. The use of the permanent tax credit for research and development purposes by our potential alliance partners will, no doubt, allow us to move ahead in developing better therapies for patients in need and furthering our mission of saving lives.

Thank you very much.

Chairman NYE. Thank you, Mr. Wilson.

[The statement of Mr. Wilson is included in the appendix.]

Chairman NYE. I just want to check the clock here. All right. What I am going to do is I am going to adjourn the session until we have time to go take this vote. And I understand we have a series of votes to take that is going to eat up a little bit of time. I am not sure exactly how long it is going to take. I am hoping it will be less than an hour, but it will be a significant bit of time. So we are going to adjourn until we finish this round of votes. We will come right back as soon as it is over, and we will have the staff kind of keep you up to date on where we are and how long we think it will take. And again, apologize. But this is one thing that we as Members of Congress have to do when they tell us and personally. So again, thank you for being here. And we will adjourn temporarily, and then we will reconvene as soon as possible.

[recess.]

Chairman NYE. I am going to go ahead and bring this hearing back to order. Thank you. And apologizes for holding you here for so long. But I am glad you stayed. I think it is important that everyone here who spent the time to get here have a chance to be heard today on this important topic. So what I would like to go ahead and do is introduce our next panelist for his opening statement. Dr. Karl Schoenbach, a professor and eminent scholar from the Frank Reidy Research Center for Bioelectrics in Old Dominion University located in Norfolk, Virginia. The Frank Reidy Research Center works to develop medical diagnostics, therapeutics and environmental decontamination. Dr. Schoenbach, thank you for joining us.

STATEMENT OF KARL SCHOENBACH

Mr. SCHOENBACH. Chairman Nye, thank you for inviting me. I am representing the Frank Reidy Research Center for Bioelectrics today. It is an interdisciplinary research center, and we have about

40 faculty, graduate students and technical staff. We focus on the study of biological effects of electrical pulses and try to develop new therapies based on these bioelectric effects. One of our major application is treatment of cancer. We are doing very well in basic research as shown by the funding which we get mainly from NIH and the Department of Defense, by a large number of publications, and by invited talks all over the world. We are less successful in transferring, however, our research to industry. Two examples. Already in 2002, we have shown that we can, with very short electrical pulses, kill cancer cells very effectively. And in 2006 in animal experiments, we could demonstrate that we can eliminate melanoma tumors completely with these short pulses. We have tried since then, since 2006 and actually before that, to find companies who work with us to bring this technology to market. And we were only successful now, this year, to find a company who is willing to work with us.

Another example is based again on research developed for the treatment of melanoma. In this case, we have developed an efficient method using electrical pulses to deliver genes directly into the tumors which then stimulate the immune system and destroy tumor cells. We could show that this therapeutic approach is not only effective in treating tumors locally, but it also prevents new tumor growth and it eliminates metastatic tumors.

So even with these exciting results we were not able to get support from companies immediately. It took us 2 years to get support from a small business which helped us to get the equipment in place and financial support from a cancer center to do a phase one trial. And again, this gave us fantastic results. But we are still searching for companies to help us support a phase two trial.

Again, because of limited availability of research dollars we have not been successful yet. In both cases, we lost valuable time which could have been used to bring our therapies to cancer patients. The problem is that the university research is still focused on basic research. It will only demonstrate feasibility in preclinical studies or early phase clinical studies and will seldom go towards for full development of therapies. This is considered to be the task of companies. Small companies, on the other hand, would understandably like to minimize risk when taking on new projects and would like to only take on ″mature projects,″ projects which are only in a certain stage such that the risk is relatively small.

So there is a gap between university research and research and development at small companies. Any incentive which helps to bridge this gap to lower this barrier is extremely important for university research, and tax incentives could be one of them. It would definitely help to get our research at the universities better to the market and faster to the market if this barrier would lower. Thank you.

Chairman NYE. All right. Thank you very much, Dr. Schoenbach.

[The statement of Mr. Schoenbach is included in the appendix.]

Chairman NYE. I am going to—we are going to go on. I am going to actually invite our ranking member, Mr. Schock, to do the next introduction, as I believe our next panelist is someone who is from his area. So I will turn things over to Mr. Schock.

Mr. SCHOCK. Thank you, Mr. Chairman. Our next witness is Mr. Barrett, is that correct?

Mr. BARRETT. That is.

Mr. SCHOCK. All right. Mr. Ned Barrett is the President and chief operating officer of Direct Logic Solutions located in my home town of Peoria, Illinois. Direct Logic was founded in 1998 and has grown substantially since then helping their clients with direct to consumer marketing. Direct Logic has a number of customers located in central Illinois and also around the country. They focus on marketing consultation, search engine optimization, marketing database construction, as well as sales forecasting. Ned has been with Direct Logic from the start, but before that ran a variety of other different business. I appreciate you making the trip here today and look forward to hearing the testimony before our committee. Welcome.

STATEMENT OF NED BARRETT

Mr. BARRETT. Ranking Member Schock, thank you, Chairman Nye, I appreciate it. I appreciate the opportunity to testify to the committee today. I am here to tell you that we support the continuation of an expansion of the R&D tax credit. Direct Logic employs 25 people and we specialize in interactive marketing which includes Web site development, as you mentioned, database construction, e-mail marketing, on-line promotions, social marketing to Facebook and Twitter and other advanced database marketing technologies. We are a small company, but we count many top firms as clients including Hasbro Toys, The Breeders Cup, Thoroughbred Horse Racing, TV Guide, Maui Jim Sunglasses, FTD Florists, BASF, the German chemical company and many others. I mention these clients because people are sometimes surprised that a firm from Peoria can compete with large agencies in New York, Los Angeles and Chicago to win such accounts.

The reason we have the securities accounts is due to our superior products and services that are a result of our intensive research and development and our proprietary technologies. Our success is due in large part to our people. It used to be the top technology talent only migrated to large cities and technology hubs. Now that there is such a great ability for people to collaborate on line in real-time with colleagues and peers around the U.S. and around the world a person's physical location is much less important. Our program has worked with people around the world who have access to the most recent technical developments at their fingerprints.

What they are seeking is a quality of life and creative environment where they can make the most of their lives. The people that we attract to our firm are attracted to Peoria for the low cost of living and the higher quality of life that they can enjoy with their families. Our real challenge in recruiting these employees is to be able to offer them a position where they are free to exercise their intellectual talents to the fullest. Our strong commitment to research and development creates the kind of work environment these people are looking for.

As a result, central Illinois employment base is strengthened by the jobs that we and other small businesses are creating. As a percentage of our business we have poured huge amounts of money

into R&D over the past several years. Since venture capital firms like ours is much scarcer than is generally understood and that we have limited access to credit markets we have used money from ongoing operations to fund most of our R&D. Many small firms do this and the R&D tax credit can be an incredibly important offset to this utilization of scarce capital. It is a very important point that the committee needs to consider. Small firms are the innovators of tomorrow and represent critical sources of new tax revenue for both the state and Federal governments.

In order to stay competitive and grow, we pour every available tax dollar into R&D. The money freed up by the R&D tax credit gets plowed back into businesses in the form of additional salaries and investment in the future. Furthermore, the R&D investment we are doing is helping in the transformation of the work place. A significant percentage of our employees are the sons and daughters of large manufacturing companies. Although Peoria is blessed with a strong industrial base through Caterpillar equipment, we and other small tech firms like ours are contributing to the development of a knowledge economy in central Illinois.

Although I am concerned about the impact the R&D tax credit has on businesses like Direct Logics, I am also very concerned about its impact on the international competitiveness of the U.S. Industry in general. The world is truly becoming flat when it comes to competitive advantage. As a technology executive, I am being contacted daily by foreign outsourcing firms who would like to subcontract work with us. We don't do any subcontracting work with foreign firms. But what I am struck by when I speak with these executives is the level of work they are doing and the sophistication of the work that they are doing.

During the past 150 years the competitive advantage that nations and their commercial enterprises have enjoyed represent significant barriers to entry for foreign competitors. In many cases it took years or decades for foreign competitor to enter commercial space and then supplant the domestic industry. Now, in many industries that time line has shrunk from years to months. Furthermore in the past, older industries that were captured by foreign competition were typically replaced by new domestic industries and services that provide a greater overall GNP growth in the industries that it replaced.

Now, I still believe that the U.S. is an innovation leader in many technology categories. Our dominance time though in those categories is shrinking. I am not sure that there is any way to slow down this progression since it seems to be a part of the accelerating nature of global economics, but I do think the government needs to provide industry with the tools to help innovation occur in the first place. I believe that the U.S. can continue to innovate and create new businesses well into the future. I think this is a function of national creativity of our society. However, it is critical that government support this innovation any way it can.

And the R&D tax credit is an important tool that supports this goal. Properly applied it not only encourages industry to invest in R&D, but it acts to ensure that those dollars are spent domestically. The R&D tax credit must be considered in its global context. It is my understanding that the U.S. credit has become much less

competitive relative to the structures offered by other governments. In this sense, the U.S. Government needs to compete with foreign governments making our R&D tax credit more attractive relative to foreign alternatives. This will encourage larger firms to locate their R&D projects in their U.S. operations rather than abroad where the tax incentives might be relatively greater. Further it may encourage foreign firms to relocate their R&D in the United States. In evaluating this, I think that this committee needs to question why other governments are much generous with this type of credit.

Looking at it from a business person's point of view, I must assume that those countries have made a rational determination that it enhances their own competitive advantage and it ultimately pays for itself through greater tax revenues. There are many proposals for how to maximum the utility of this tax. Although I do not have the expertise to tell you exactly how to structure the tax I can offer the following general opinions. First I think that the tax should become a permanent fixture of our tax code. Second the rates should be made competitive with the rates of other countries. And third, you should consider allowing more rapid expensive equipment to purchase and support R&D efforts. I believe that the R&D credit is critical to the continued innovation and growth of the U.S. economy. And I thank you for considering my testimony.

Chairman NYE. Thank you very much.

[The statement of Mr. Barrett is included in the appendix.]

Chairman NYE. Finally, I would like to introduce Mr. Bendis, Mr. Richard Bendis, President and CEO of Innovation America located in Philadelphia, Pennsylvania. Mr. Bendis is a frequent consultant and speaker to international technology based economic development organizations. Innovation America works towards accelerating the growth of the entrepreneurial innovation economy in America. We are happy to have you, Mr. Bendis, and we are ready to hear your opening statement.

STATEMENT OF RICHARD BENDIS

Mr. BENDIS. Thank you, Chairman Nye and Ranking Member Schock. Good afternoon. My name is Rich Bendis, and I am the President and CEO of Innovation America. I am also a long-time member of the American Society of Mechanical Engineers, a founding board member of both the National Association of Seed and Venture Funds and the State Science and Technology Institute and a former technology entrepreneur who has benefited from R&D tax credits. I want to thank the subcommittee for providing me the opportunity to comment on the importance of extending and making permanent the research and experimentation tax credit. Innovation America, ASME and NASVF support this extension.

Innovation America also supports the R&D credit coalitions recommendations of a permanent R&D tax credit at a commensurate rate for all companies, a 20 percent simplified credit and a longer extension of the traditional credit. Since 1981 when the Federal R&D tax credit was enacted the U.S. Government sought to encourage businesses to look to the future and invest in long-term high risk high dollar investments that would create high wage jobs.

The R&D tax credit helps to lower the cost of these high risk investments that are necessary to keep American companies competitive and foster growth in the overall economy especially during these challenging economic times.

The National Academies has cautioned that without high quality knowledge-intensive jobs and the innovative enterprises that lead to discovery and new technology, our economy will suffer and our people will face a lower standard of living. Our trading partners around the globe recognize the long-term value of R&D and have moved aggressively to implement generous and permanent tax policies that attract these vital investments to their shores. In addition to the Federal R&D tax program, at least 38 States utilize tax credit programs as economic development incentives. A research paper published in Economic Development Quarterly ″in-state R&D tax credits and high technology establishments″ concluded that State R&D tax credit programs have significant and positive effects on a number of high tech establishments in the state.

R&D tax credit programs vary from State to State as some offer refundable credits set up in a way that the amount provided to a company utilizing the R&D tax credit may exceed the company's actual State income tax liability. Some States allow credits to carry forward to future years while others set percentage caps on the tax liability that can be applied to credits. And additionally some States allow for transferability or sale of credits in the event the company has no tax liability. That generates cash for these entrepreneurial firms which is needed at those early stages of growth. I also believe that while the R&D tax credit program extension is a critical component of the U.S. innovation portfolio of programs it is not the only area that this subcommittee should be concerned with.

In the chairman's opening comments, he referred to job creation as one of the highest priorities for this administration and Congress. Especially those created by innovative entrepreneurial companies. If recent history is any indication for 3 years following both the 1990 and 2000 recessions, small businesses of less than 20 employees were responsible for over 100 percent of the net new job creation in America.

Unfortunately, what worked after the last two recessions might not work as well today due to the fragile nature of our financial markets. The valley of death, which represents the entrepreneurial funding gap between a half a million and $5 million, has gotten wider and deeper. Venture capitalist average investment last year was $8.3 million per investment and they had their lowest investment quarter in 13 years last quarter. Angel investors last year invested 26 percent less than the prior year due to their own personal financial crisis and 47 out of 50 States have budget problems that will negatively impact their entrepreneurial support programs. For the first time in U.S. history, we now have a perfect storm affecting our innovation economy.

In December of 2008, we met with the members of the Obama transition team and presented a proposal for creating an national innovation framework. The details of this proposal have also been submitted to this subcommittee in a white paper which was published by Science Progress. In summary, we recommended that a

national innovation seed capital jobs fund to funds be created and we support the permanent reauthorization of the SBIR and STTR programs. We also recommend that an integrated national innovation strategy be developed and that the administration prioritize innovation as part of their national agenda.

Time does not permit a detailed discussion of this innovation strategy, but it is complementary to the R&D tax credit discussion that has occurred today in this subcommittee hearing.

In closing I strongly support the permanent extension of the R&D tax credit program as it is an extremely important component of America's innovation program portfolio. And I would like to thank you for the opportunity to present my view to this subcommittee and request that my written statement as well as other supporting documentation be submitted into the record. Thank you very much.

Chairman NYE. We will do that. And again thank you for your testimony.

[The statement of Mr. Bendis is included in the appendix.]

Chairman NYE. Thank you to everyone, not only for making the effort to be in here today, but for bearing with us while we were a little bit delayed. I am going to be mindful of the time we have kept you here. I am going to ask a couple of follow-up questions and then yield to Mr. Schock as much time as he would like and then we will conclude. But I want to just pick up on a couple of things that I think are important that I have heard today. And one is starting with Mr. Heenan. You mentioned the effect of the AMT and not being able to take advantage of the R&D tax credit. I just want to get a poll. Has anybody else experienced that problem or know folks in the industry who have had the same issue by a raise of hand if that is clearly an issue. Mr. Heenan do you have any suggestions how we can solve that.

Mr. HEENAN. I guess the simplest suggestion would be to carve out the R&D tax credit from the AMT. If you could allow that credit to be taken if someone is subject to AMT then it would eliminate the problem.

Chairman NYE. Well, that sounds very direct and reasonable. I want to follow up on also an issue that a number of people have mentioned about the expense of compliance. And I believe, Mr. Heenan, you and Mr. Ferros had also mentioned having some trouble with that. And again, as I mentioned in my opening statement I have talked to other business owners in the Hampton Roads area in my district who have said they had some trouble with that.

Mr. Ferros, can you comment on how you have handled that and how big of an expense that has been for you at Blackhawk.

Mr. FERROS. Well, the way we typically handle it is we have had to set up some sophisticated accounting and we do project related accounting that is very specific to the R&D process. So our engineers have to maintain time records, project specific records. We have a lot of specific documentation that we have to have available for the specialists as they come in to ensure that we not only have sufficient documentation but we put it in place for a potential IRS audit. What I have been told from our tax professionals is that this is a tier one IRS topic. Consequently every year we submit our tax filings. We feel that the R&D tax credit will be subject to review.

So we go through the extra steps and consequently the extra cost to ensure that we are in compliance. For the small business person, I think they just typically avoid it because they don't want to deal with the issues, nor do they have the available cash to go through the process that is involved in ensuring that they are compliant with the IRS regulations.

Chairman NYE. I would like to ask if any other panelists have any other comments on the cost of compliance and the complexity. Yes, Mr. Heenan.

Mr. HEENAN. At my company, we do government contracting, so we are required by the DOD and other agencies to have a pretty robust accounting system. So it actually is not an issue for my company today. However, I have had the pleasure of working at three other small companies prior to this. None of them did government contracting and none of them—all of them did a lot of research, none of them went for the R&D tax credit. And the reason was simple. We just didn't have the accounting systems robust enough to meet the IRS standard for applying for the R&D tax credit.

Chairman NYE. One more follow-up question for Mr. Ferros. We are talking about complexity. Can you make any comments about, and I understand, and I have heard I think pretty consistently today that the permanence of the program would be a big help in planning for future years, what about the structure and the complexity of the way the tax credit is put together and the difficulty in understanding how it is set up. Do you have any comments on either ways to make it easier? Would something like a flat credit for R&D be something that would be more easy to manage.

Mr. FERROS. Certainly I am a proponent of a very simplistic approach. Again, if you are a larger company, you can rely on the expertise of professionals. They can depict the interpretation of the law. I am a certified public accountant. I don't understand the law. I rely on our professionals to come in and help us be compliant. As a small business person, somebody that is focusing on truly innovative and thought provoking and hopefully very significant outcomes, the last thing they want to think about is tax compliance. They are focused on technology, they are focused on product innovation, they are focused on growing their business. Consequently we need to keep it simple, they need to understand what the net business is for them at the end of the day and they should be able to scratch it on a single piece of paper rather than call up their CPA and go through a very time consuming and sophisticated process. So I am all about simplification. Thank you.

Chairman NYE. Dr. Schoenbach in your testimony you suggested that one of the challenges you see from your perspective is getting the universities and the businesses together and bridging a gap between the two. Do you have any specific suggestions of ways we could make that bridge easier?

Mr. SCHOENBACH. I think that it requires from our side, from a university side, to be more open to the needs of the industry. That we don't stay in an ivory tower but that we are trying to reach out to industry and ask them what we need to do rather than just offer them what we have. And I think what happens to a large extent now in universities. For the other side, for the industry, I think it would be important to reward risk-taking more. Because it is al-

ways a risk, to take a new project, but the payoff could be very high. If it is possible to reward risk-taking in a certain way through incentives that could be tax incentives, that would probably also encourage small companies, small business to get closer to a university and try to find out what is actually available there and cross the bridge this way.

Chairman NYE. Thank you. And I have just one final question for Mr. Bendis. You began to lay out, I think, kind of an ambitious agenda of other ideas that could be very helpful to us in terms of assisting innovative small businesses. I am just wondering if you could give us any ideas about specific changes to the R&D tax credit that might help us at least get halfway there.

Mr. BENDIS. Performance is number one. I think one of the problems is that it is somewhat like the SBIR program, which I know the House passed on it yesterday. I think there is a little frustration amongst all of the practitioners in the United States and small businesses that they really can't plan long-term on a number of items based on the temporary nature of some of these programs. Or they are always going back for reauthorization. So there are a number of countries around the world who basically look at what the United States creates. Simplify it, improve upon it and then they build it into their innovation strategy and make it permanent. So the question is why should we continue to be the one that designs the programs, other people benefit around the world and then we debate our own programs which everybody agrees with are the best working in the world and we come back and debate them every couple of years here in Congress.

So permanence, I think for these kind of programs, as well as other critical programs in the innovation portfolio is extremely important. Simplification is another area. And that has been talked about by some other panelists. Anything that can be done to simplify the program to where a nonaccounting, nonlegal person can understand the legislation and whether or not they can qualify for it very quickly would be very advantageous to entrepreneurial and innovative businesses.

Chairman NYE. Well, again, I want to thank all of you. You have given us some really good ideas to take into account as we look at reauthorization. And I would like now to yield to Mr. Schock for as much time as he would like.

Mr. SCHOCK. Well, thank you, Mr. Chairman. You have taken some of my very thoughtful and creative questions already, so I will be brief. Dr. Schoenbach, to follow up on Chairman Nye's question about transferring that technology to businesses, part of the bill yesterday was the STTR provision, the small business technology transfer program. And I am just wondering if your university is able to or if you target businesses who may already participate in that program as potential customers for your technology that you are developing at the university, if there is a way for you to get that information of recipients, in other words of those entrepreneurs who are already involved with that that are interested in taking the risk and developing the technology that a university like yours would use. It would seem to me that that might be a good program to look at for potential partners.

Mr. SCHOENBACH. I think definitely STTRs, and we have done several of them, are a good vehicle, to bring certain projects to fruition. And SBIRs, as well, with subcontracts to the university. So this is a possibility and that can be used. It doesn't work for all the projects. Preclinical studies, trials and so on, require in my opinion much more funding than is available through these STTRs. The other problem sometimes with STTRs and SBIRs, especially at Department of Defense, is that you have to see what is available. That means you have to find a match first before you can start working on a project. And very often there is no match. An innovation coming from a university, might not have reached that stage where somebody at DOD has made a decision this is worth funding. There is a certain delay then in all these procedures. But definitely for many projects this is an excellent program, and we have made use of it several times.

Mr. SCHOCK. So the limitations in the program aren't so much in the way the rules are written, but it is much in the grant award sizes don't allow for some of the research.

Mr. SCHOENBACH. That is what my opinion is. Some of the projects require more funding. So this is one obstacle. And particularly if you go into biomedical applications trials are very expensive. The other one is the delay in bringing innovations to industry. For example, I go into the Internet and look at what is available in SBIR and STTR at DOD. I am an engineer so this would be my first thing to do, go in the Web site of DOD. And then I see the different topics which are offered. And some of them might fit, but most of them will not fit if I do something which is really innovative. So it requires additional work to make people aware of this innovation which takes time to do. So this is a matter of involving the researcher more in the decision making about topics which are worth funding. And I don't know how this could be done; this is a matter of procedures.

Mr. SCHOCK. Mr. Barrett, you mentioned in your testimony that in addition to the R&D tax credit perhaps we could offer some incentives for what I would interpret as like an accelerated depreciation or some kind of incentive for the capital required for the R&D. Is that what you are thinking of as like an accelerated depreciation method for those investments or do you have some specific ideas on what we could do as a part of the R&D tax credit to help lessen the burden required for some of the more capital intensive research.

Mr. BARRETT. I think that more rapid depreciation would be a very good thing because in our business the hardware becomes obsolete much more rapidly. Five years, I think, is a typical schedule. And it can become obsolete within a year or 2 years, depending upon the technology uses. So yeah, looking at that I think a little bit more carefully would be warranted.

Mr. SCHOCK. And then, Mr. Bendis, you talked about improving the R&D tax—or research and development tax credit. I am wondering if there are specific States that are exceptionally good at this or they have a better R&D than other States that we can model our legislation at or at least look to for ideas.

Mr. BENDIS. As I mentioned, there are 38 States, and a number of them have modeled their programs based on what the earlier

States have done and tried to improve them. I know that New Jersey has done some modifications recently, Pennsylvania has a very aggressive program. But I think it would be very easy. And the State Science and Technology Institute, which is a technology based economic development national association working with these kind of organizations in all 50 States, could very easily summarize for you and this committee what some of the best practices are and what some of the improvements have been made as well as the National Association of Seed Venture Capital. We would be glad to work with the committee to look at what some of the innovative things are that are occurring in the States that may benefit this legislation as you are trying to either extend or make it permanent.

And I don't know if it is too late, but it is never too late to look at constant improvements. And I think that the platforms of innovation are really occurring at the State level. So how do you take advantage of some of the things that they have learned from best practices that can be incorporated at a Federal level. And we would be glad to work with you on that.

Mr. SCHOCK. Well, I don't think it is too late. I mean, that is why we are having the hearing, so we can get ideas and feedback and ways to improve. So very good. Thank you all for your traveling here and most importantly for putting up with our very crazy schedule. Welcome to Congress.

Chairman NYE. Again, I want to add my word of thanks to everyone for spending this time with us and for sharing your expertise. You all are on the front lines here and see this in execution every day, and it is our job to listen to you and then to try to make policy which reflects the reality of what is going on out in the economy. So we thank you again. I am going to ask unanimous consent that members have 5 days to submit statements and supporting materials for the record. Without objection so ordered. This hearing is now adjourned.

[Whereupon, at 1:22 p.m., the subcommittee was adjourned.]

News from the
Committee on Small Business
Subcommittee on Contracting & Technology
Glenn Nye, Chairman

STATEMENT
of
The Honorable Glenn Nye, Chairman
House Committee on Small Business, Subcommittee on Contracting and Technology
"Research and Experimentation Tax Credit: Helping Small Business Innovators"
Thursday, July 9, 2009

Yesterday afternoon, the House voted on legislation to strengthen SBA's small business innovation programs. In debating that bill, the same two themes kept coming up over and over again--job creation and economic growth. Those are areas in which our country has traditionally excelled, thanks largely to an emphasis on research and development. Today, even as our economy moves towards recovery, we need to be focused on the kind of innovation that can unlock new markets and create new jobs. The Research and Experimentation tax credit-- commonly known as the R&D tax credit-- is a tested means for doing so.

Targeted tax relief is an important tool for encouraging small business growth. It is also an effective catalyst for innovation. In the past, the R&D tax credit has encouraged countless entrepreneurs to test the waters of innovation. Today, we're going to look at that incentive and evaluate its role in strengthening small firms.

Any investment in small business R&D goes a long way. That's because entrepreneurs are *already* more inventive than their larger competitors. Small firms produce 13 times as many patents as big businesses, and have a history of pioneering new markets. Remember, the tech boom of the 1990s wasn't a corporate success story, it was a small business revolution-- one that saw the rise of lucrative new industries such as online advertising. But we must also remember that innovation isn't just about developing the latest technology-- it's about job creation.

Seventy percent of R&D credit dollars go to high-wage positions for researchers, scientists and engineers. Because small firms employ nearly 40% of these professionals, it's safe to say that R&D job growth is small business job growth. And with unemployment now hovering at 9.5%, we need every job we can get. Incentives for innovation are an important means for keeping current workers on payroll, and putting unemployed Americans back to work. They also make good economic sense-- according to one study, every dollar in R&D tax credits yields another $2 in research.

---more---

Clearly, this credit is doing a great deal of good for our economy. And yet despite its obvious benefits, there is concern that it is not accomplishing as much as it could for entrepreneurs. That's a real issue, because roughly 40% of the businesses that claim this credit are small firms.

Perhaps the greatest shortcoming in the R&D credit is its lack of permanence. In the nearly three decades since its inception, the incentive has never been cemented. Instead, it has been reauthorized one year at a time, often at the last minute, retroactively, after the credit has expired. If that sounds convoluted, it's because it is. Needless to say, these actions have added an element of uncertainty to an already risky R&D process. Making the tax credit permanent could mitigate that risk, giving entrepreneurs the stability they need to plan budgets, and attract investment. Meanwhile, a move to unravel some of the credit's complexity could also be a big help. By simplifying the process, we could cut down on paperwork and ease compliance costs. Doing so would likely encourage more small firms to participate in R&D, helping them to develop more new products and create more new jobs.

Kitco Fiber Optics, a business in my district which unfortunately could not make it today, is just one example of a small business, which qualifies for the R&D tax credit, yet does not receive the credit. The President and CEO of KITCO, Geoff Clark, has told me that due to the uncertain nature of the current legislation, his business has not made the initial investment to hire an accountant, who specializes in R&D tax credit dealings, to go through their accounting books in order to determine what would qualify for this credit. My hope is that taking action to both simplify and make permanent the R&D tax credit, would encourage KITCO and other small businesses to use the incentive to increase their growth and productivity.

The strength of our economy has always been driven by the innovation and hard work of our small entrepreneurs. As we work to create jobs and get our economy moving again, we must once again look to small businesses to lead the way.

By strengthening the R&D Tax Credit and cutting taxes for small businesses, we can give our most inventive firms the tools they need to innovate and grow.

And most importantly, as we face increased competition from abroad, continued investment in R&D will help us to retain our standing as home to the world's greatest technological advances.

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Opening Statement
Rep. Aaron Schock
Ranking Member Subcommittee on Contracting and Technology
House Committee on Small Business
Hearing: ***Research and Experimentation Tax Credit: Helping Small Business Innovators***
July 9, 2009

Good morning. Thank you, Mr. Chairman, for holding this hearing to further study the impact the Research & Experimentation, or R & D tax credit, is having on our nation's small businesses. I'd like to also extend thanks to each of our witnesses who have taken the time to provide this committee with their testimony and travel here today in person.

The R&D tax credit has been available for businesses large and small for over 20 years. During that period, tens of thousands of companies have used this important provision of the tax code to help re-invest and grow their businesses, encouraging more American ingenuity and domestic jobs.

Now, more than ever, we must be focused on providing appropriate incentives to those companies which will help grow our economy and make a sustained commitment to conducting long-term, high-cost research here in the United States. The R&D tax credit is positive motivation for U.S. investment and innovation, something which will help contribute to a stronger economy and a higher standard of living for American workers. Simply put, the R&D tax credit stimulates immediate business investment decisions with long-term benefits to the U.S. economy.

Since the R&D credit is only available for research performed in the United States, it remains a job creator that cannot be exported. As such, the credit is certainly needed, especially as foreign governments continue to actively recruit American companies to base

research operations at a low cost option abroad. Regrettably, Congress has repeatedly failed to provide the long-term insight to extend this credit beyond a few short years. The fact that the R&D credit has proven itself popular enough to be extended 13 times is all the evidence this Congress needs to know that we should stop playing games and make this credit permanent.

Again, the R&D tax credit is scheduled to expire at the end of this year, and again, small businesses are being pushed into a scenario where saving proves wiser than investing for growth due to the lack of certainty of the continued extension of this credit. With such confusion, businesses are unable to factor the full benefits of the R&D credit into their research budgets, long-term commitments, and capital needs.

The bottom line is that either a longer extension or permanency of the R&D tax credit would help create high paying U.S. jobs and allow for better planning by our nation's businesses. I am optimistic that today we will hear from those small businesses that are directly affected by this tax credit. I look forward to hearing from you all regarding the necessity of the R&D tax credit, as well as suggested changes, so that we can continue to incentivize the risk taking, entrepreneurship and investment necessary to help grow our economy and create good paying American jobs.

Testimony of:
Bart Heenan
CEO, Morphix Technologies
Virginia Beach, Virginia

Hearing on
"Helping Small Business Innovators through the Research and Experimentation Tax Credit"
July 9, 2009

Subcommittee on Contracting and Technology
of the Small Business Committee
of the US House of Representatives

Introduction

Chairman Nye, Ranking Member Schock, and members of the Committee, my name is Bart Heenan and I am Chief Executive Officer at Morphix Technologies, a small technology-oriented business in Virginia Beach, Virginia. Thank you for the opportunity to talk with you today about the importance of the R&D tax credit. We appreciate your leadership on many issues that have a significant impact on small technology business.

Morphix Technologies was formed in 1995. We make products that have the potential to save lives for our military, first responders and industrial workers. We started off providing chemical detection badges to industry. Our badges are worn by industrial workers to help them recognize if they are being exposed to a chemical that could hurt them. Today, we ship these products all over the world, making products in five different languages. We have the pleasure of providing products to most of the world's largest chemical companies, as well as to many different industries where industrial chemicals are used. Our niche is providing low-cost, rugged, easy-to-use chemical detection products that your average worker can use with minimal training.

Earlier this decade, we saw the opportunity to expand our product offering to meet the needs of people serving in our military and first responder organizations. We saw that the existing chemical detection technologies for the military and first responders were too complex, required too much training, and were very expensive. We wanted to provide capabilities that could easily be used by your typical cop, firefighter, or eighteen-year-old who volunteered to serve in our armed forces. So, we embarked on modifying our technology to serve these markets.

While we had the core technology, significant product development effort was required to tailor our technology to the specific needs of the first responder and military markets. It is typical for the product development cycle in our market to take three to five years from product conception to full commercialization. To finance this effort, we raised money from investors, borrowed money from our bank, reinvested 100% of our profits, and learned how to compete for government-funded research and development (whether SBIR or otherwise). Over the past few years, we have launched multiple new products to the military and first responder markets. Today, over two-thirds of our revenue comes from these markets.

An introduction to Morphix would not be complete without a mention of our people. I have the pleasure of working with thirty-five of the hardest-working people you'll ever meet. We develop, manufacture and market our products all from our Virginia Beach

facility. Over the years, we have grown our technical staff. We now employ 15 engineers and scientists, of whom five have PhDs. We have three issued patents, and another three currently under application. We develop our products both from internal funding and from government sponsored development.

The Research and Development Process

In our industry, like in most technology industries, research and development is risky, labor-intensive, expensive and time-consuming. I'd like to address each one of these descriptors in a little more detail, because I think that they have a bearing on a well-functioning R&D tax credit system.

First, why is research and development risky? As we evaluate whether or not to embark on a research and development project we evaluate many factors including market potential, potential likelihood of commercial success, cost of development, potential likelihood of successful development, and regulatory environment. Given the extended time frames to develop new products, we often find ourselves trying to guess what the world will be like three years from now or five years from now. Obviously, this is not a very exact process. Once the project starts, market requirements change, regulatory environments change, and experimentation often leads to unexpected results. Given that the research and development process starts with trying to guess the future and then continues through a maze of unexpected results and changing assumptions, it is by its nature risky.

Second, why is research and development labor-intensive? The primary tool of research and development is experimentation. Experimentation requires people. Of course, research and development often requires leading-edge facilities and equipment. However, in the end, people make hypotheses, people conduct tests and people analyze results. At Morphix about 85% of our direct research and development expense is labor.

Third, why is research and development expensive? First and foremost, highly qualified scientist and engineers are expensive. Of course, this is why technology businesses not only create jobs, but we create high paying jobs. Technology is ever-changing, and the rate of change is ever increasing. As a result, there is a constant need to update facilities, equipment, and process capability. The combination of high labor cost and high overhead cost makes research and development very expensive.

Lastly, why is research and development time-consuming? As mentioned earlier, the primary tool of research and development is experimentation. Experimentation by its nature yields unexpected results. Research and development involves trying multiple paths, and learning from each path. It involves failing more often than you succeed. The "trial and error" nature of research and development takes a lot of time.

Problems with the R&D Tax Credit for Small Businesses

As a business person, I am not in a position to recommend policy. However, I would like to stress some practical issues and implications regarding the R&D tax credit from a business perspective.

The R&D tax credit can have a substantial impact on employment. Research and development is people-intensive; research and development companies create good-paying jobs. With a well-functioning R&D tax credit, small companies such as mine could increase their technical staff by 10% or so. That could be a substantial job-creation engine for the country. However, at Morphix (and many other small technology companies, I believe), we generally don't hire that additional scientist or additional engineer because we don't have confidence that we will be able to claim the R&D credit. Below, I will outline the three reasons why we don't have confidence in the R&D tax credit.

1. Given the "on-again, off-again" history of the R&D tax credit, I believe that many businesses do not factor the credit into their decision-making process. Research and development is time-consuming. It is common for the development cycle to take three or more years. If you are making a decision today to invest in a three-year or five-year product development project, you really need to know that this tax credit will exist over the life of the project. Otherwise, the prudent business decision is not to count on it.

2. There is a significant administrative burden to small companies in order to comply with IRS regulations regarding the R&D tax credit. In order to comply with IRS regulations, companies must have fairly sophisticated accounting systems. Large companies will likely already have these systems in place, but small companies typically do not. At Morphix, we are likely in better shape than most small businesses in this regards. Because we perform government contracting, we are required to maintain an accounting system that meets the

demanding requirements of the Department of Defense and other agencies. However, I believe that the typical small technology business does not have this capability. In fact, I believe that many owners of small technology businesses have decided that the cost of complying with the administrative burden of the R&D tax credit is greater than the tax benefit itself.

3. Lastly, and most importantly from my perspective, many small business owners are not able to claim the R&D tax credit because of the Alternative Minimum Tax (AMT). Most small business owners, including myself, pay taxes on their company's income through their personal income tax return. If AMT applies to an individual's tax situation, then that individual is not allowed to claim the R&D tax credit. As an example, Morphix has spent well over $1,000,000 in R&D in the past four years. Over that time period, I have paid hundreds of thousands of dollars in my share of employee and income tax attributable to my ownership in Morphix. However, because of the AMT, over that time period I have been able to claim a sum total of $138 in R&D tax credits. And, it's not like we are bringing home a lot of cash. Our company has been growing for the past five years; consequently, the company has required a lot of capital. As a result, we have taken no dividends from the company for many years. In effect, my partners and I have funded the tax impact of the company out of our personal pockets. In recent years my partners and I have debated whether or not to bear the administrative expense of filing for the R&D tax credit, given that we will likely not be able to benefit from it because of AMT.

In summary, I fully support the R&D tax credit. I think that it has the potential to be a powerful force for creating good-paying jobs. However, for the reasons outlined above, I believe that small technology businesses are generally not able to take full advantage of this tax credit. Of course, if companies are not taking the R&D tax credit into account when making decisions, then the credit is likely not fully achieving its intended economic and social benefits. I would ask that the committee consider the following:

- make the tax credit long-term or permanent,
- simplify the administrative burden of the tax credit for small businesses, and
- address the AMT impact on small business owners.

STATEMENT BY

SCOTT FERROS

VICE PRESIDENT AND CHIEF FINANCIAL OFFICER

BLACKHAWK!

BEFORE

CONTRACTING AND TECHNOLOGY SUBCOMMITTEE

HOUSE SMALL BUSINESS COMMITTEE

THE UNITED STATES HOUSE OF REPRESENTATIVES

FIRST SESSION, 111TH CONGRESS

JULY 9, 2009

Chairman Nye, Congressman Schock and distinguished Members of the Contracting and Technology Subcommittee of the House Small Business Committee, my name is Scott Ferros. I am the Vice President and Chief Financial Officer for BLACKHAWK!, a Norfolk Virginia based Veteran Owned Small Business.

Thank you for allowing me the opportunity to share my views on the merits of the Research and Experimentation Tax Credit.

As a Certified Public Accountant, with over 30 years of varied public accounting and industry experience, and the current Chief Financial Officer of a highly innovative small business, I feel uniquely qualified to convey to you my observations regarding the R&E Credit.

As I am sure you already know; which I have experienced time and time again, tax policy significantly influences taxpayer behavior. With respect to the R&E Tax Credit; I believe the economics of the credit stimulates product innovation related spending. However, the ongoing temporary nature of the legislation along with the administrative complexities of the program create an uncertainty for

all users and a punitive cost of compliance issue that will limit use for very small businesses.

As we meet here today, I ask that you might consider a couple of simple recommendations to:

- Recognize the economic benefits most companies derive from the program
- Make the Research and Experimentation Credit permanent law
- Work to simplify the compliance process

BENEFITS DERIVED

BLACKHAWK! is a 16-year old company with a history of developing new and innovative product solutions; which we believe enhance the effectiveness and safety of our primary end user; the Warfighter, and the law enforcement officer.

It is our collective opinion at BLACKHAWK! that the economic benefits of the Research and Experimentation Credit allowed under the Internal Revenue Code, have helped enable our company to grow from a very small entrepreneurial run business to a product development driven organization that now employs over 300 people

throughout the United States and sells thousands of products to military and law enforcement professionals on a global basis.

BLACKHAWK! has utilized the R&E Credit since 1999. During this ten year period, the company successfully developed several hundred new products and increased payroll related research and experimentation expenses, from approximately $200,000 in 1999 to over $5 million in 2008.

During that time period; while tax credits increased from $15,000 to $300,000 per year, gross revenues subject to tax grew ten-fold; much of the increase driven by new products introduced as a result of the R&E process, which leads us to believe the payback to the government far surpasses the cost of the program credits.

PERMANENCY AND COMPLEXITIES

While the benefits of the program appear clear, the temporary nature of the credit has caused uncertainty and the compliance complexities have created barriers of entry and a cottage industry supporting compliance.

The Research and Experimentation ("R&E") Tax Credit was originally enacted as part of the 1981 Economic Recovery Tax Act

and has been revised and amended in the years since through many updated tax acts, but it remains a temporary provision in the Internal Revenue Code. The continuance of the credit is a frequent topic of discussion and speculation between businesses, tax advisors, Members of Congress and the Department of Treasury, creating an air of uncertainty for all parties involved. We believe that making the credit permanent would encourage more companies to use the credit and therefore stimulate research.

The R&E tax credit and expenses are addressed in IRC §§41 and 174 as well as the corresponding regulations. This source of law is well over one hundred pages, which does not include the thousands of court cases and other rulings pertaining to the same topic. An editorial discussion by the Bureau of National Affairs is nearly three-hundred pages in length. As evidenced by the massive volume of law, compliance and access to the credit is extremely difficult. This complexity has given rise to a cottage industry of tax advisors who specialize exclusively in quantifying and reporting the credit. In our case, we justify the compliance and consulting cost to report this credit. However, quite frankly the professional services

associated with this credit are expensive and I believe it could prevent smaller entrepreneurs from benefiting from this tax provision.

At BLACKHAWK!, we have a well organized and disciplined R&E division with remarkable employees and distinct financial reporting. Even with this unique organization, we are required to produce contemporaneous documentation to substantiate our R&E activities for the sole purpose of qualifying for the tax credit. Quantifying the tax credit is an additional step where all costs associated with qualifying projects are scrutinized to ensure all relevant costs are properly captured.

At BLACKHAWK!, we have the sufficient size to benefit from the R&E credit; however, it was not always the case when we were a new start-up company. We believe there are many barriers that prevent smaller and younger companies from claiming this credit, not the least of which are complexities, compliance costs, Alternative Minimum Tax (AMT) limitations and Net Operating Loss (NOL) limitations. So, Mr. Chairman and Members of the Committee, we strongly recommend that easing these barriers will permit more and smaller companies to claim the credit and drive innovation within the United States.

This concludes my prepared statement and again, thank you for this opportunity to testify before the committee today. I look forward to answering your questions.

PRESENTATION TO SUBCOMMITTEE
Douglas Wilson, LifeNet Health

RESEARCH HAS PLAYED A SIGNIFICANT ROLE IN LIFENET HEALTH'S PAST AND WILL PLAY IN ITS FUTURE

Today LifeNet Health is the largest nonprofit, full-service organ and tissue provider in the United States. Since our formation in 1982, LifeNet Health has pioneered technologies through a strong and unwavering commitment to research designed to ensure safety in allograft screening, recovery, cleaning, and delivery. Allograft tissue is tissue donated from the gift of tissue donation. LifeNet Health processes the tissue into implants for surgeons to use their patients who have disease or injury. Our innovative processes have been benchmarks for the industry. Allograft tissue transplants are used in nearly every hospital in the United States each day – specifically in orthopedics, trauma, spine, cardiac, vascular and neurosurgical procedures.

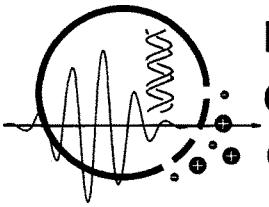
Key to today's hearing is the following. LifeNet works closely with many for-profit companies both in the research as well as the distribution phase of our product life cycles. In some cases, we rely and will continue to rely on their capital investments through contractual programs and joint ventures for the research into new bio-implant technologies leading to new and improved clinical products. In many cases these companies provide LifeNet will the necessary capital to enhance LifeNet's research and production efforts, carry

products through the regulatory and product development cycles, as well as access to complementary technologies.

The research tax credit in its many forms can be a factor in the investment decision process by our for-profit partners. Most of our new products, particularly those emanating from our regenerative medicine initiative are long-time horizon projects with high fixed costs, thus, permanence of the tax credits could reduce the risk for the investment and distribution partners. Equally important, permanence provides an environment by which for-profit partners can plan and forecast with more confidence. The use of the tax credits allows LifeNet through our partners to have flexibility in the selection of projects and products to fund, even those with high social value and long-term impact on our society. Future research and development efforts will ensure better patient care, and optimized economic options for hospitals.

LifeNet Health's commitment to safety, quality and patient outcomes is evident in everything we do, including our ongoing research and development efforts. LifeNet Health's more than 45 patents include tissue cleaning technology, the industry standard in tissue processing, and other innovations in understanding of the fundamental principles that promote natural healing and improve mobility and function. As a result of the emphasis on research, LifeNet Health has distributed more than 2.0 million allografts with no incidence of disease transmission linked to tissue screened and processed by LifeNet.

As part of our ongoing commitment to advance bio-implants safety and efficacy, LifeNet recently announced the LifeNet Health Regenerative Medicine Institute. The focus of the new institute will be utilization of LifeNet's current tissue scaffold platform technologies coupled with the latest in stem cell and growth factor developments to yield new generations of more clinically effective implants. For these lofty projects going forward LifeNet Health will surely establish alliances with other organizations for co-development. The use of permanent tax credits for research and development purposes by our potential alliance partners will no doubt allow us to move ahead in developing better therapies for patients in need and furthering our mission of saving lives and restoring health.



Frank Reidy Research Center for Bioelectrics
OldDominionUNIVERSITY

Testimony at the hearing of the US House of Representatives Committee on Small Business, Subcommittee on Contracting and Technology, entitled "*Helping Small Business Innovators through the Research and Experimentation Tax Credit*," July 9, 2009

My name is Karl H. Schoenbach. I am a Professor in Electrical and Computer Engineering at Old Dominion University in Norfolk, Virginia, and have served as director of the Frank Reidy Research Center for Bioelectrics at this university from 2002 to 2008. The Center for Bioelectrics is an interdisciplinary bioengineering research center, with approximately 40 faculty, graduate students and technical staff. The research focus is on the study of biological effects of electrical pulses, and the long-term goal of the Center is to develop and/or enhance therapies that will facilitate the treatment or prevention of human diseases. One of the major applications of this research is cancer treatment either by direct application of electrical pulses or through electrogenetherapy. An additional area that we are focused on is wound healing. Of note, our research on bioelectric studies both, *in vitro* and *in vivo*, have received worldwide attention, as documented by more than 20 invited talks at international conferences during the past year.

Whereas our basic bioelectric studies, which are funded mainly by NIH and Department of Defense, have progressed nicely, our efforts to transfer these technologies to industry have only been partially successful. This is not limited to our experiences with our bioelectric research. One of my colleagues, a plasma scientist, is facing similar problems in transferring his research to industry. Too many good ideas, too many important discoveries are either never brought to fruition or suffer from long delays in their realization, because companies are not willing or able to make a financial investment in research projects, which although scientifically sound, have not yet progressed to a certain level. It is this area of translational research that is difficult for universities to fund and for industry to invest in without additional incentives. So this creates a gap between the generation of innovative concepts and their realization by industry.

An example for such delay relates to our work on melanoma treatment using ultrashort, intense electrical pulses. First studies which showed that cancer cells can be eliminated were published in 2002 by researchers at the Frank Reidy Research Center for Bioelectrics at Old Dominion University. In 2006, with animal studies we showed that it is possible to eliminate melanoma tumors completely. Since 2002, we have tried to find entrepreneurs and small business innovators to bring this method to market, and only now, in 2009 have we been successful in finding a company willing to develop this therapy, and we are presently in discussion with this company about licensing our technology. The argument, which was always brought up in discussions with company representatives who were invited by us to look at this technology, was that it was not mature enough for them to develop it. This is kind of a catch-22 situation: The university researcher will typically demonstrate feasibility in pre clinical studies or early phase

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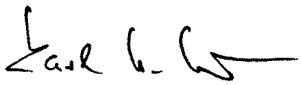
clinical studies and will seldom go towards the full development of therapies. This is considered to be the task of companies. Small companies, on the other hand, would understandably like to minimize risk when taking on a new project, and would like to see a prototype of the medical device before entering into an agreement about licensing with the university. Any incentive, such as tax credits, which will allow the company to be less risk-adverse, will help the universities to get their innovations developed and commercialized.

A second example is also based on research developed for the treatment of melanoma. In this case, we developed an efficient method using pulsed electric fields to deliver genes directly to tumors. In pre clinical studies we demonstrated that we could effectively "cure" mice of melanoma by delivering a gene that produced a protein (interleukin-12) that stimulated the immune system to destroy tumor cells. This therapeutic approach was not only effective in treating existing tumors but also prevented new tumors from forming. Even with these exciting results it was difficult to convince small companies to expand their limited research dollars to support a clinical trial to test this therapy. After 2 years we were able to convince a small company to allow us to use their equipment and a Cancer Center to provide financial support to test this therapy in a Phase I clinical trial. The results of this study were quite impressive. Not only was the therapy shown to be safe, but three patients who had extensive cutaneous disease (greater than 60 tumors) had all of their tumors completely respond after only 4 of the lesions were treated. We are currently trying to convince companies to support a Phase II trial to further test this therapy. Again because of the limited availability of research dollars we have not been successful in getting the support. Increasing incentives to small companies and making additional research dollars available to them will increase their interest in these new technologies and speed up the transition of potential new therapies to clinical testing.

University research is basic research, research which provides guidance to those who develop the medical devices which are eventually used in the doctor's office: the small business innovators. There needs to be a symbiosis of university research and small business innovation to utilize the work done at universities. Small business can benefit by having access to facilities available at universities. In addition, small business innovators working with university researchers can provide feedback which can help motivate or point university research in certain directions which could allow faster transition of new therapies to the patients. Providing incentives, such as tax credits, to small business innovators will not only stimulate them in taking on projects which carry higher risks than presently seems to be tolerable for small businesses. For researchers at the university, an increased interaction with companies is extremely important. It is not only that the intellectual property generated at universities is more efficiently utilized, but it also helps us at the university to understand industry constraints and to better target our research.



Karl H. Schoenbach
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July 8, 2009

TO: House Committee on Small Business/Subcommittee on Contracting and Technology
RE: Hearing: Helping Small Business Innovators through the Research and Experimentation Tax Credit
FROM: Ned Barrett, President, Direct Logic Solutions, Peoria, Illinois

My name is Ned Barrett and I am the President and Chief Operating Officer of a technology firm called Direct Logic Solutions, which is headquartered in Representative Shock's district of Peoria, Illinois. I appreciate the opportunity to testify to you today and am here to tell you that we support the continuation and expansion of the Research and Experimentation Tax Credit.

Direct Logic employs 25 people and has revenues of approximately $5 million annually. We specialize in interactive marketing, which includes website development, database construction, e-mail marketing, online promotions, social marketing through Facebook and Twitter and other advanced marketing technologies.

Although we are a small company, we count many top firms as clients including Hasbro Toys, FTD Florists, The Breeders' Cup, TV Guide, Maui Jim Sunglasses, BASF (the German chemical giant) and many others. I mention these clients because people are sometimes surprised that a firm from Peoria Illinois can compete with firms in New York, Chicago and Los Angeles to win these accounts. The reason we have secured these accounts is due to superior products and services that are the result of our intensive research and development in new proprietary technologies.

Our success is due in large part to our people. It used to be that top technology talent only migrated to large cities and to technology and industry hubs. Now that there is such a great ability for people to collaborate online and in real time with colleagues and peers around the U.S. and around the world, a person's physical location is much less important. Our programmers work with people around the world and have access to the most recent technical developments at their fingertips. What they are seeking is quality of life and a creative environment where they can make the most of their talents.

The people that we attract to our firm are attracted to Peoria for the low cost of living and the higher quality of life they can enjoy. Our real challenge in recruiting employees is to be able to offer them a position in a firm where they will be free to exercise their talents to the fullest. Our strong commitment to research and development creates the kind of work environment these people are looking for. As a result, the central Illinois employment base is strengthened by the jobs that we and other small businesses are creating.

As a percentage of our business, we have poured huge amounts of money into R&D over the past several years. Since venture capital for firms like ours is much scarcer than is generally understood, and since we have limited access to credit, we have used money from ongoing operations to fund most of our R&D. Many small firms do this and the R&D tax credit can be an incredibly important off-set to in this utilization of scarce capital.

This is a very important point that the committee really needs to consider. Small firms are the innovators of tomorrow and represent critical sources of new tax revenue for both the State and Federal government. In order to stay competitive and grow we pour every available dollar into R&D. The money freed up by the R&D tax credit gets plowed back into businesses in the form of additional salaries and investment in the future.

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Furthermore, the R&D investment we are doing is helping in the transformation of the workforce. A significant percentage of our employees are the sons and daughters of industrial workers. Although Peoria is blessed with a strong industrial base through Caterpillar tractors, we and other small tech firms like ours are contributing to development of a knowledge economy in central Illinois.

Although I am concerned about the impact that the R&D Tax credit has on businesses like Direct Logic, I am also very concerned about its impact on the international competiveness of U.S. industry. The world is truly becoming flat when it comes to competitive advantage. As a technology executive, I am being contacted daily by foreign technology outsourcing firms that want subcontract our technology work. Although we do no outsourcing, I am alarmed by the sophistication of many of these firms and the high-level work they are doing.

During the past 150 years, the competitive advantage that nations and their commercial enterprises enjoyed represented significant barriers to entry for foreign competitors. In many cases it took years or decades for foreign competitors to enter a commercial space and supplant the domestic industry. Now, in many industries, that timeline has shrunk from years to months. Furthermore, in the past, older industries that were captured by foreign competition were typically replaced by new domestic industries and services that provided greater GNP than the industries they replaced.

Now, although the U.S. is still the innovation leader in many technology categories, our dominance time in those categories is shrinking. I am not sure that there is any way to slow down this progression since it seems to be part of the accelerating nature of global economics, but I do think that government needs to provide industry with tools to help the innovation to occur in the first place.

I believe that the U.S. can continue to innovate and create new businesses well into the future. I think this is a function of the natural creativity of our society. However, it is critical that government support this innovation in any way it can and the R&D Tax Credit is an important tool that supports this goal. Properly applied, it not only encourages industry to invest in R&D but it acts to ensure that those dollars are spent domestically.

The R&D tax credit must be considered in its global context. It is my understanding that the U.S. credit has become much less competitive relative to the structures offered by other governments. In this sense, the U.S. Government needs to compete with foreign governments by making our R&D tax credit more attractive relative to foreign alternatives. This will encourage larger firms to locate their R&D projects in their U.S. operations rather than at their foreign branches where the tax incentive might currently be greater. Further, it may encourage foreign firms to locate their R&D efforts in the U.S.

In evaluating this, I think that this committee needs to question why other governments are more generous with this type of tax credit. Looking at it from a business person's point of view, I must assume that those countries have made a rational determination that it enhances their own competitive advantage and ultimately pays for itself through higher future tax revenues.

There are many proposals for how to maximize the utility of this tax. Although I do not have expertise to tell you exactly how to structure the tax, I can offer the following general opinions:

First, I think that the tax should become a permanent fixture of our tax code.
Second, the rate should be made competitive with the rates of other countries.
Third, consider allowing the more rapid expensing of equipment purchased to support R&D efforts.

I believe that the R&D tax credit is critical to the continued innovation and growth in the U.S. economy. Thank you for considering my testimony.

Sincerely,

Ned Barrett
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Testimony of Richard A. Bendis, President and CEO, Innovation America
Before House Committee on Small Business
Subcommittee on Contracting and Technology

Thursday, July 9, 2009
10:00 AM – 2360 Rayburn HOB
Time Allocated 5 minutes

Chairman Nye and Members of the Subcommittee:

Good morning. My name is Rich Bendis and I am the President and CEO of Innovation America, a national, non profit Innovation Intermediary focused on accelerating the growth of the entrepreneurial innovation economy in America. I am also a long time member of the American Society of Mechanical Engineers (ASME), a founding Board member of both the National Association of Seed and Venture Funds (NASVF), and the State Science and Technology Institute (SSTI), and a former technology entrepreneur who has benefited from R&D Tax Credits.

I want to thank this subcommittee for providing me the opportunity to comment on the importance of extending and making permanent the Research and Experimentation Tax Credit. Innovation America, ASME, and NASVF support this extension.

Innovation America also supports the R&D Credit Coalition's recommendations of a permanent R&D tax credit at a commensurate rate for all companies; a 20 percent simplified credit and an extension of the traditional credit.

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The National Academies have cautioned that "without high-quality, knowledge-intensive jobs and the innovative enterprises that lead to discovery and new technology, our economy will suffer and our people will face a lower standard of living."

Since 1981, when the federal R&D tax credit was enacted, the U.S. Government sought to encourage businesses to look to the future and invest in long-term, high-risk, high-dollar investments that would create high-wage jobs. The R&D tax credit helps to lower the cost of these high-risk investments that are necessary to keep American companies competitive and foster growth in the overall economy especially during these challenging economic times.

The National Academies has cautioned that "without high-quality, knowledge-intensive jobs and the innovative enterprises that lead to discovery and new technology, our economy will suffer and our people will face a lower standard of living." Our trading partners around the globe recognize the long-term value of R&D and have moved aggressively to implement generous and permanent tax policies that attract these vital investments to their shores.

In addition to the Federal R&D tax credit program, at least 38 states utilize tax credit programs as economic development incentives. A research paper

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published in Economic Development Quarterly "In State R&D Tax credits and High-Technology Establishments" concluded that state R&D tax credit programs have "significant and positive effects" on the number of high tech establishments in a state. R&D tax credit programs vary from state to state as some offer "refundable" credits, set up that the amount provided to a company utilizing the R&D tax credit may exceed that company's actual state income tax liability. Some states allow credits to carry forward to future years, while others set percentage caps on the tax liability that can be applied to credits. Additionally some states allow for transferability or sale of the credits in the event the company has no tax liability.

I also believe that while the R&D tax credit program extension is a critical component of the U.S. innovation portfolio of programs, it is not the only area that this subcommittee should be concerned with.

Job creation is one of the highest priorities this Administration and Congress has, especially those created by innovative entrepreneurial companies. If recent history is any indication, for three years following both the 1990-91 and 2000-01 recessions, small businesses of less than 20 employees were responsible for over 100% of the net new job growth in America. Unfortunately, what worked after the last two recessions might not work as well today due to the fragile nature of our financial markets.

The "Valley of Death" which represents the entrepreneurial funding gap between $500,000 and $5,000,000 has gotten wider and deeper. Venture Capitalists average investment last year was $8.3 million and they had their

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lowest investment quarter in 13 years last quarter. Angel Investors last year invested 26 percent less than the prior year due to their own personal financial crisis and 47 out of 50 states have budget problems that will negatively impact their entrepreneurial support programs. For the first time in U.S. history we now have a "Perfect Storm" affecting our Innovation economy.

In December of 2008, we met with members of the Obama Transition Team and presented a proposal for Creating a National Innovation Framework. The details of this proposal have also been submitted to this subcommittee in a white paper that was published by Science Progress. In summary, we recommend that a National Innovation Seed Capital Jobs Fund of Funds be created and we support the permanent reauthoritization of the SBIR and STTR programs. We also recommend that an Integrated National Innovation Strategy be developed and that the Administration prioritize Innovation as part of their National agenda. Time does not permit a detailed discussion of this Innovation strategy, but it is complimentary to the R&D tax credit discussion that has occurred today in this subcommittee hearing.

In closing, I strongly support the permanent extension of the R&D tax credit program as it is an extremely important component of America's Innovation program portfolio.

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I would like to thank you for the opportunity to present my view to this subcommittee and request that my written statement as well as other supporting documentation, be submitted into the record.

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science progress

Creating a National Innovation Framework

Building a Public-Private Support System to Encourage Innovation

By Richard Bendis & Ethan Byler

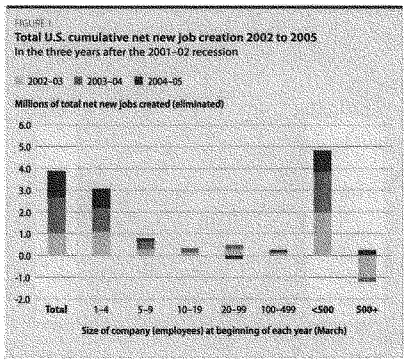
April 2009

INTRODUCTION AND SUMMARY

Science, technology, and innovation experts in the United States today almost unanimously agree that our country needs to launch a collective national effort to accelerate U.S. technological- and innovation-based growth. Amid a global economic downturn during which other nations are boosting their already significant public- and private-sector efforts to build more competitive, innovation-led economies, the United States stands almost alone in the world without a national innovation framework.

The result? Our country is beginning to lose its innovation leadership and national competitive advantage because we do not coordinate innovation policy across federal, state, municipal, and university boundaries and do not adequately support high-growth entrepreneurial companies. The federal government pours approximately $150 billion annually into basic scientific research but then largely fails to ensure this money results in the kind of broad-based economic growth that makes our products and services the most competitive on the planet.[1] This is a travesty because it is innovative small businesses that have generated between 60 to 80 percent of net new jobs annually over the last decade as they grow and prosper, according to the U.S. Small Business Administration.[2] These same companies also employ 30 percent of high-tech workers such as scientists, engineers, and information technology workers.

Today's economic crisis, however, is also an opportunity to restimulate our knowledge economy, if recent history is any guide.



After both the 1990-91 and the 2000-01 recessions, small businesses of less than 20 employees were by far the dominant job creators in our country.[3] The Office of Small Business Advocacy in the Small Business Administration shows that during the three years after the 2000-01 recession, the smallest of our companies (one to four employees) provided 79 percent of the net new jobs in the subsequent three years. Similarly, after the recession of 1990-91, small businesses created 89 percent of net new jobs (see sidebar for case studies in Pennsylvania and Kansas).

INVESTING IN INNOVATIVE SMALL COMPANIES WORKS

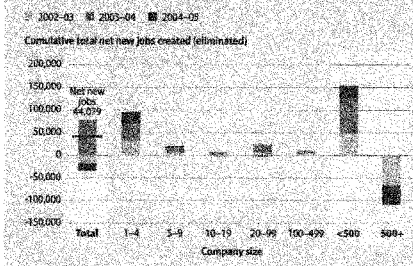
The Small Business Administration's Office of Small Business Advocacy collected data on the states of Pennsylvania and Kansas as case studies for their analysis of small business-driven job creation. Both states have aggressive technology-based development programs to help their state economies transition to innovation-based growth. Both cases proved significant examples of places where job creation and net new jobs were attributed to small businesses.

Pennsylvania created a total of 44,079 net new jobs after the 2001 recession (2002 to 2005), despite large companies (those with more than 500 employees) eliminating 107,992 jobs (see Figure 2).

Kansas-based companies created a total of 18,354 net new jobs in the same three years (2002 to 2005)—new employment that also was attributed to the growth of small firms in the state (see Figure 3).

FIGURE 2

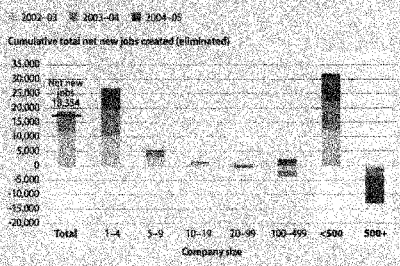
Pennsylvania builds jobs through innovative small businesses
Accumulative net new job creation in 2002–05 after 2001 recession



Pennsylvania companies created a total of 44,079 net new jobs in the three years after the 2001 recession (2002 to 2005). 94,522 jobs were created by companies with one to four employees (214 percent of the total); 119,871 jobs were created by companies with <20 employees (272 percent of the total); 152,073 jobs were created by companies with <500 employees (345 percent of the total); large companies (more than 500 employees) eliminated a net total of -107,992 jobs (-245 percent of the total) in three years.

FIGURE 3

Kansas builds jobs through innovative small businesses
Accumulative net new job creation in 2002–05 after 2001 recession



Kansas companies created a total of 18,354 net new jobs in the three years after the 2001 recession (2002 to 2005). 26,587 jobs were created by companies with one to four employees (145 percent of the total); 33,405 jobs were created by companies with <20 employees (182 percent of the total); 31,548 jobs were created by companies with <500 employees (172 percent of the total); large companies (more than 500 employees) eliminated a total of -13,194 jobs (-72 percent of the total) in three years.

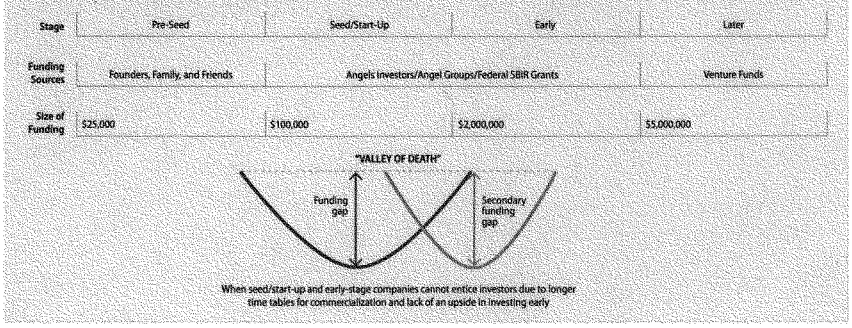
Source: Small Business Administration

Furthermore, small- and medium-sized enterprises produce between 14 times more patents per employee than large corporations, another key measure of innovation-led growth.[4] Indeed, small companies are a key source of innovation for themselves and for large companies in terms of fueling mergers and acquisitions as well as technology licensing activities. Many new commercially viable ideas for new products and services and other technological discoveries flow out of small start-up companies commercializing publicly funded research—companies that go on to become major players or are acquired by others to boost their own competitive advantage. Either way, our economy benefits enormously.

What worked after the last two recessions, however, may not work so well today given the fragile nature of our financial markets, which is why we need a national innovation framework to help ensure this commercialization process runs more smoothly and efficiently. In fact, the already massive funding gap for young innovative companies—the other Achilles' heel of our innovation-led economy—has only grown wider over the past decade. The so-called "valley of death"—the early-stage funding gap for young entrepreneurial companies (see Figure 4)—has always existed for early-stage innovation and entrepreneurs, but it has widened because of the current national economic crisis.

Venture capitalists are husbanding their financial resources to keep their current portfolios of startup companies alive and have already moved further up the financial cycle. The average investment by venture firms last year was $8.3 million per investment and only about 4 percent of the capital went to early-stage companies.[5] Angel investors—individual investors with a keen eye for technology—who previously had filled the role of assisting some startups cross this valley of death reduced their investments by over 26 percent in 2008, and the availability of investment capital among angels decreased dramatically by 40 percent over the same period.[6]

FIGURE 4
The innovation capital "valley of death"
Commercializing innovative products and services is where investment money is most needed but least available



To be sure, past federal efforts to coordinate the complex mix of policies and federal funding have resulted in significant new programs and much-needed investments that have clearly helped to grow technology companies in the United States. The passage of the Bayh-Dole Act in 1980—which allowed universities to patent innovations that grew out of government-funded basic research—is responsible for the continuing flood of new companies with new ideas (backed by private investment capital) into our economy. And the Small Business Innovation Development Act in 1982—which established the rule for federal agencies to commit 2.5 percent of their extramural research budgets to the Small Business Innovation Research program, or SBIR—continues to serve as key bridge financing for start-up companies working in areas to address unmet needs in public health, defense, energy, telecommunications, and aerospace—all science arenas that boast intensive research-and-development requirements.[7] The findings from the recent assessment of the SBIR program by the National Academies indicated that the program leads to significant new knowledge formation and intellectual property disclosure, and affects commercial outcomes.[8]

(There is currently an ongoing debate about the future of the SBIR program in Congress. The SBIR program is one of the most innovative public funding programs in the world, and it must be reauthorized on a longer-term basis of at least six to eight years with many of the suggested enhancements by the National Academies' Assessment.)

Other government programs since then have also helped to boost our nation's innovation-led economy. One is the Technology Innovation Program of the National Institute of Standards and Technology to accelerate innovations in areas of critical national need, which has produced significant results. Other efforts, however, were more scattershot and certainly less coordinated. We will detail these efforts in this paper before turning to our own set of recommendations to weld the successful innovation programs and funding mechanisms into a far more effective national innovation framework.

And what are those recommendations?

We argue in the pages that follow for a national effort to support innovation, entrepreneurship, and the advancement of both technologies and early-stage businesses. Specifically, we propose a new National Innovation Framework to structure and strengthen an integrated system for the strategic acceleration of the nation's innovation economy. Most importantly, we propose through this framework to formulate widespread participation of multiple interests including federal and state government, the private sector, universities, foundations, and the investment community. Our National Innovation Framework contains three new structural elements for a widespread national innovation strategy:

1. The Federal Innovation Partnership and a National Innovation Advisor
   - This new partnership program and new office would coordinate federal technology innovation programs through a Federal Innovation Partnership with a new high-level National Innovation Advisor who has access to the president.

2. The National Innovation Seed Fund and Technical Assistance Grant Fund
   - This funding program would create a $2 billion National Innovation Seed Fund, or NISF, to invest in experienced early-stage capital providers, including venture capital and

angel funds as well as other public and/or private funding authorities. The purpose of the NISF is to jumpstart new knowledge economy jobs that will shape America's future alongside a Technical Assistance Grant Fund that would provide entrepreneurial support resources and services to portfolio companies and NISF fund managers.

3. The National Private-Public Partnership Innovation Program
   - This new nonprofit program, modeled on the already up-and-running Innovation America public-private partnership program, would accelerate the growth of the entrepreneurial innovation economy in America and oversee the National Innovation Seed Fund by coordinating government, university and private-sector players in early-stage investment capital, commercialization, technical and entrepreneurial mentoring, and workforce development related to innovation development.

As we will demonstrate in this paper, the time is now to implement these three elements of a national innovation framework. Together, we believe these programs will again set our nation on the road to innovation-led economic prosperity in the 21st century that could well trump 20th-century successes.

EARLY EFFORTS WITHOUT A CENTRAL MODEL

Technology and innovation experts around the country came to recognize in the 1980s and 1990s that the United States was losing its cutting-edge competitiveness in science, technology, and innovation despite the vast amounts of federal funding for basic research and development. A consensus was growing that the federal, state, and municipal governments in league with universities and federal laboratories needed to work together more cooperatively to build our scientific estate and innovation leadership.

By the middle of the 1990s these grave concerns resulted in a series of early efforts to address the problems—efforts that in hindsight prepared the groundwork for what needs to be done today but alas were not followed up on at the end of the decade. Still, these early efforts need to be briefly explored for the early consensus they brought to U.S. innovation policy prescriptions.

In early 1995 these concerns first found collective voice when former Governors Richard Celeste of Ohio—a Democrat and creator of the Edison Programs in Ohio—and Dick Thornburgh of Pennsylvania—a Republican and creator of the Ben Franklin Technology Partners program—formed a bipartisan, 20-member State-Federal Technology Partnership Task Force consisting of national leaders including governors, state legislators, research-and-development leaders, and chief executives from business and academia.[9] These leaders worked in collaboration with the Carnegie Commission on Science, Technology and Government; the National Governor's Association; the American Society of Mechanical Engineers; the White House Office of Science and Technology Policy; and the National Conference of State Legislatures to evaluate opportunities for collaboration between the state and federal technology programs.

The task force made recommendations on ways to redefine the state-federal science and technology relationships and generate enhanced innovation and commercialization—with the emphasis of the taskforce on greater cooperation. One of the major outcomes of the task force was the creation in late 1995 of a national nonprofit organization, the State Science and Technology Institute by the Battelle Memorial Institute, which has a mission to improve state and regional economies through science, technology, and innovation. SSTI exists today and continues to work to achieve this mission and became a free-standing organization in 2000.

That same year, John Gibbons, Assistant to the President for Science and Technology, announced the creation of an interagency review of science and technology programs to help foster better state and federal government cooperation to advance national goals. This review was initiated in response to growing state investments in science and technology and the need to enhance state-federal partnerships to realize greater national benefits. The interagency review was led by U.S. Department of Commerce Undersecretary for Technology Mary Good under the auspices of the National Science and Technology Council chaired by the president. The group had representatives from all federal science and technology agencies.

In 1997, President Bill Clinton created the U.S. Innovation Partnership to coordinate federal and state efforts to stimulate the development and use of new technologies that could help the United States meet the common goals of generating economic growth, improving our schools and health care, better protecting the environment at a lower cost, and reinventing government at all levels. USIP task forces were established around specific areas and some policy recommendations emerged. Alas, both the USIP and the undersecretary for technology in the U.S. Department of Commerce ceased to exist under the Bush administration.

Starting anew in 2005

Many of the recommendations offered by the State-Federal Technology Task Force in 1995-1996 and USIP in the late 1990s are relevant today. And they should be revisited under the Obama administration with the major difference being the role of innovation not just on technology. Indeed, after six years of neglect under the last administration, federal and state leaders on both sides of

the political spectrum began to develop their own strategic approaches to innovation policies. Some of those efforts included:

- **THE NATIONAL INNOVATION ACT OF 2005.** The NIA, sponsored by Sen. John Ensign (R-NV) established a President's Council on Innovation to develop a comprehensive agenda and coordinate federal effort to support innovation.[9]
- **THE NATIONAL COMPETITIVENESS INVESTMENT ACT OF 2006.** The NCIA, sponsored by Sens. Ensign and Joseph Lieberman (D-CT), established a President's Council on Innovation to develop a comprehensive agenda and coordinate federal effort to support innovation.[10]
- **THE AMERICA COMPETES ACT OF 2007.** The ACA, the work of a bipartisan group of lawmakers, built on the NCIA to increase research investment, strengthen science & technology educational opportunities, and develop an innovation infrastructure. Many of the recommendations from ACA have gone unimplemented.[11]
- **THE NATIONAL GOVERNOR'S ASSOCIATION INITIATIVE OF 2007.** This effort created the Innovation America Partnership, which established a public-private partnership to coordinate innovation efforts with outlined roles for state, federal, and private jurisdiction. Governor Janet Napolitano of Arizona—now Homeland Security Secretary—led this effort. Gov. Napolitano also created the Innovation America Foundation.[12]

In addition, last year two important new efforts to create a nationwide innovation policy body were launched: one in the Senate and one from a leading nonprofit technology policy group. In Congress, the National Innovation and Job Creation Act of 2008 was introduced by Senators Susan Collins (R-ME) and Hillary Clinton (D-NY), which sought to establish a National Innovation Council to improve the coordination of innovation activities. And later that year the widely discussed proposal to create a National Innovation Foundation—which would coordinate technology and innovation policy under one roof and then pool and leverage investments—was proposed by Robert Atkinson of the Information Technology and Innovation Foundation.[13]

Many different elements of these programs are a part of our proposed National Innovation Framework, but we would argue that they have not been adequately networked together to achieve the sustainable collective outcomes the United States needs today to create an integrated national innovation strategy. Our goal is to establish that integrated operating model so that the United States can construct a fully networked and optimized infrastructure for the greater coordination and success of overall U.S. innovation strategy—an integrated network that leverages the best that the federal government and state governments, universities and nonprofit groups, and the private sector can bring to the table.

We believe it is important for existing state and federal agencies to retain their current funding and implementation roles so that they can maintain their mission-oriented goals and not lose time sparking a new, innovation-led economic recovery. But we recognize that better coordination is absolutely imperative.

That's why our National Innovation Advisor and federal innovation partnership program would convene to evaluate effectiveness, return on investment, and redundancy in programming in order to reduce any unnecessary overhead and maximize the amounts of funding invested in outcome-driven research and commercialization. Further, this new coordinating effort will identify gaps that exist in federal technology innovation programs and respond better to the current economic environment. This effort will enable our National Innovation Seed Fund to fill a major early-stage funding gap for innovative entrepreneurs in the United States. We now turn to this National Innovation Framework.

THE NEED FOR A NATIONAL INNOVATION FRAMEWORK

According to the recent Global Innovation Index study completed by the Boston Consulting Group, the National Association of Manufacturers, and the Manufacturing Institute, innovation leadership has shifted to more nimble emerging and developed economies, where their governments are investing heavily in science and technology and innovative approaches to increase their respective market shares of the global knowledge economy.[14] Foreign counterparts have successfully plucked best-practice strategies and approaches in supporting entrepreneurship and early-stage business development. Combined with the primary competitive advantage of cheaper labor costs, these efforts are now paying big dividends for these societies.

Analytical chemistry in China, clinical trials in India, biomedical engineering in Singapore, and a number of back-office and other outsourced industries have gained strong footing abroad and have effectively cut into America's competitive share in high technology. The study ranked the United States eighth in innovation leadership behind Singapore, South Korea, Switzerland, Iceland, Ireland, Hong Kong, and Finland. The study evaluated both innovation inputs, such as fiscal and education policies, and outputs such as patents, technology transfer from basic university research, research and development, and business performance (see Table 1).

Table 1
Global Innovation Index
Countries surpassing the United States in innovation

Ranking	Country	Score
1	Singapore	2.45
2	South Korea	2.26
3	Switzerland	2.23
4	Iceland	2.17
5	Ireland	1.88
6	Hong Kong	1.88
7	Finland	1.87
8	United States	1.80
9	Japan	1.79
10	Sweden	1.64

Source: Boston Consulting Group and the National Association of Manufacturers

The Global Innovation Index also called for a bold national innovation strategy to encompass their recommendations, but they did not propose a central operating model for widespread implementation. What our nation needs is a National Innovation Framework—an operating model that offers less complexity, more accountability, and more cooperation among businesses, technology organizations, innovators, investors, entrepreneurs, policymakers, and university leaders. We use the term "operating model" because the provision of any service—and we consider innovation policy implementation a service that involves the interaction of multiple actors from both the public and private sectors alongside appropriate government involvement—requires implementation beyond the control of any one governmental agency.

The better designed and anticipatory this operating model is, the better it will be in delivering and implementing innovation policy that boosts our country's economic competitiveness and job creation in a timely fashion and at the most efficient cost to taxpayers. Today's leading high-tech and innovative businesses and industries that are the quickest to identify, carve, and sustain their business models are the most successful. They may not be the fastest to discover something innovative, but they are the fastest to piece together all the necessary components to become exceedingly profitable.

Yet at the same time we must help mobilize those that are quick to discover. Any single discovery can be an innovation that forms the basis for a new company or business opportunity for the inventor who improves the chances for success of another company but lacks the keen business knowledge to accelerate these discoveries. Many discoveries today are sitting on the shelves of universities, research laboratories, and corporations and go undeveloped for widespread public benefit due to the lack of know-how and underavailability of early-stage capital (see Figure 5 for a diagram of this technology lifecycle).

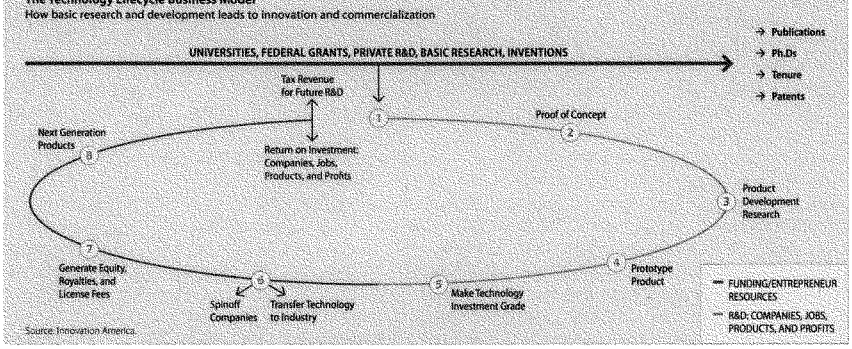
The upshot? The formation of a comprehensive innovation lifecycle business model—from discovery to product development to rapid distribution to end-user satisfaction—that delivers success through wealth creation, sustainability, and consumer trust is sorely lacking. To be sure, technology transfer offices at some universities, astute venture capitalists, and corporate research directors on the prowl bring all these elements together to create incredibly competitive and growing companies (think Google Inc). Yet a comprehensive national innovation framework to make this happen more consistently still eludes us. That's why we believe a shared National Innovation Framework—a prioritized operating model that structures a collective national response for the strategic acceleration of the country's entrepreneurial innovation economy—is now sorely needed.

Our National Innovation Framework would provide the best networked approach, leverage our innovation resources, and provide assistance to the growth of high-tech companies that are continuously changing the shape of our world. In turn, the growth of these very companies fuels our economic and job growth and serves as a considerable national competitive advantage to retain the highest skilled national talent and compete with the rest of the world on science and technology.

At the center of the framework sits a National Private-Public Partnership Innovation Program, which is a nonprofit organization composed of leading public- and private-sector innovation players. The organization would draw on the expertise of its partners to administer a $2 billion National Innovation Seed Fund and advise a collaborate effort with a federal National Innovation Advisor in the White House on how to tailor national innovation strategy to best meet the needs of newly emerging technologies and services (see Figure 6).

As our chart illustrates, key private and non-profit technology organizations, such as SSTI, National Association of Seed and

FIGURE 5
The Technology Lifecycle Business Model
How basic research and development leads to innovation and commercialization



Source: Innovation America

Venture Funds, American Society of Mechanical Engineers, the Association of University Technology Managers, the Community Development Venture Capital Alliance and the Angel Capital Association, would work with federal agencies and their technology program managers. These efforts would be reported to a new National Innovation Advisor and the investment managers of an experienced public-private innovation seed-stage fund—through the National Public-Private Partnership Innovation Program, or NPPPIP. In this way, the best innovation strategy, advice and policy execution would be coordinated through a single organization with a direct link to the president and key private-sector and nonprofit leaders. We now will present the individual components of our National Innovation Framework to demonstrate how these three programs would work in tandem.

FEDERAL INNOVATION PARTNERSHIP AND NATIONAL INNOVATION ADVISOR

Leading programs for a national innovation and competitiveness agenda

The keys to the success of this national innovation framework are the partnerships and federal leadership created in this operating model. Over the past 25 years, a new global innovation system has evolved in the United States, with support from government and industry for basic research in universities, nurtured by rapid growth in venture capital and implemented by industrial and services companies through strong investments in research and development, capital equipment, and information technology. This highly complex system of innovation, however, requires much closer collaborations and more alliances among federal funding agencies and private investors, industries, universities and government labs.

More than simply utilizing technology, *innovation is the ability to take new ideas and translate them into commercial outcomes by using new processes, products or services in a way that is better and faster than the competition.* The ability to do this requires an inclusive process among individuals, institutions, and organizations that results in new business models, new forms of engagement and, ultimately, new companies. Today, new companies create a greater portion of job growth than do established larger companies. In the new economy, innovation and productivity are the cornerstone of competitiveness and prosperity.

Our Federal Innovation Partnership program would address the lack of government coordination around national innovation and competitiveness. There has never been one federal agency or cabinet-level position responsible and accountable for overseeing the total federal technology investment portfolio. Nor is there one federal agency or advisor overseeing the balance of investment and technology research, which should be managed in innovation portfolio. The major objective of our federal innovation partnership program would:

- Align investments in programs strategically
- Access bridges into the commercial marketplace faster
- Eliminate redundancy
- Identify gaps in our nation's technology portfolio
- Decrease administrative costs
- Measure outcomes to align performance of the programs.
- Serve as a clearinghouse of information and resources
- Require federal agencies to communicate and collaborate with one another to galvanize the country around a strategic innovation and competitiveness agenda
- Catalyze cooperation among the federal agencies on a shared innovation agenda

It is important, however, to form the Federal Innovation Partnership around the existing programs that the nation is using to support technology development and transfer, education, workforce and economic development, and industry-university collaborations. Initial programs identified that form the basis of this partnership boast about $3 billion in federal funding and include but are not limited to the following programs:

FEDERAL TECHNOLOGY INNOVATION PROGRAMS

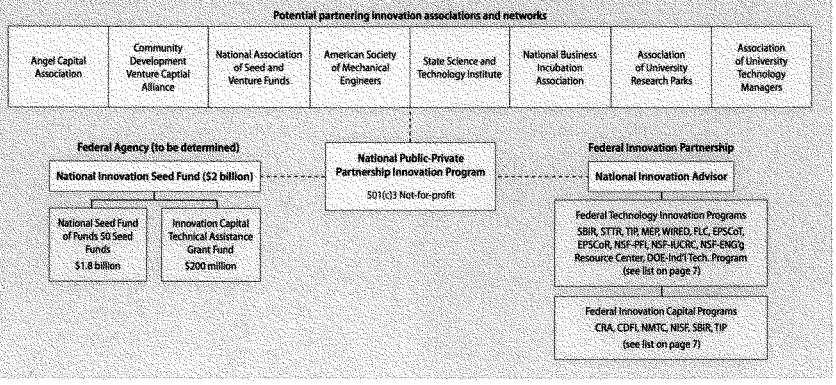
- Small Business Innovation Research grants program
- Small Business Technology Transfer Research grants program
- Technology Innovation Program
- Manufacturing Extension Partnership
- Workforce Innovation in Regional Economic Development program
- Federal Laboratory Consortium
- Experimental Program to Stimulate Competitive Technology
- Experimental Program to Stimulate Competitive Research
- Industrial Technology Program
- Partnership for Innovation
- Engineering Resource Center
- Industry-University Cooperative Research Centers

FEDERAL INNOVATION CAPITAL PROGRAMS

- Small Business Innovation Research grants program
- Technology Innovation Program
- Community Reinvestment Act
- Community Development Financial Institutions
- New Market Tax Credits

Such an array of programs perfectly illustrates why these programs are not widely understood or recognizable in the world of innovation and need to be administered through a Federal Inno-

FIGURE 6
A National Innovation Framework[15]
Combining the best innovation programs through a public-private partnership innovation program



vation Partnership program. But at the same time, the wealth of program expertise in all of these programs should not be lost in the name of consolidation. For this reason, the federal innovation partnership program would include federal-level program administrators of the listed programs and other federal representatives deemed appropriate by the National Innovation Advisor and the Obama administration.

We believe outstanding amounts of knowledge exist in the federal agencies through managing these programs and it's important to retain some level of independence in program administration. The Federal Innovation Partnership would add a level of oversight and ability to leverage resources and the strategic updating of programs to respond to the current global innovation environment. The chairman of the Federal Innovation Partnership would be the National Innovation Advisor, who will be an advisor to the President on strategic issues related to national innovation and competitiveness.

No cabinet level position in the Administration currently exists for maintaining America's position as the global innovation leader, as well as making sure that federal agencies collaborate with each other and leverage resources effectively. The national innovation advisor in tandem with the Federal Innovation Partnership program would ensure consistency in the way the programs are administered and made accountable and they will work to update and enhance programs to meet the changing nature of what it takes to stay competitive globally.

Currently the federal budget for the listed Federal Technology Innovation Programs is approximately $3 billion. These programs effectively launch new technologies from the federal laboratories, small businesses, nonprofit research organizations, universities, and other centers of excellence in the United States. It will be important for the National Innovation Advisor to monitor the balance of the federal investment portfolio between basic, applied, advanced, and mature technologies and industries to improve our competitive position globally and recommend new programs, investments, and initiatives where needed.

The other programs represented in the Federal Innovation Partnership are existing Federal Innovation Capital Programs, which provide financial incentives for innovation-based development. Very few of these programs have been structured to support the rapidly growing entrepreneurial innovation economy of the United States. This needs to change. Our policy framework would enable this reform to happen at a federal level coordinated through the White House to ensure effectiveness.

As our National Innovation Framework chart on page 7 illustrates, the Federal Innovation Partnership program would work through the National Public Private Partnership Innovation Program to coordinate investments from the public-private National Innovation Seed Fund to direct innovation investment capital efficiently but opportunistically around the country. This public-private partnership of existing innovation associations and networks would provide outreach and investment-intelligence roles between the states and regions, and allow the federal government to align technology innovation investment programs with federal, state, regional and university programs.

NATIONAL INNOVATION SEED FUND

A collective response to financing innovation-based businesses

The United States is currently losing is its innovation leadership and national competitive advantage by not supporting high-growth entrepreneurial companies. According to the U.S. Small Business Administration, innovative small businesses have generated between 60 to 80 percent of net new jobs annually over the last decade. These young companies employ 30 percent of high-tech workers such as scientists, engineers, and information technology workers.

Furthermore, small-and medium-sized enterprises produce between 14 times more patents per employee than large patenting companies. In short, small companies are a key source of innovation for themselves and for large companies in terms of fueling mergers, acquisitions, and licensing activities. See the diagram in Figure 7 for a quick understanding of the financing lifecycle that creates this innovation.

The current seed-stage and early-stage funding gap, which has always existed for early innovation and entrepreneurs, has widened recently because of the current national economic crisis. Banks and hedge funds are failing, and loans and lines of credit for working capital are at extremely low levels and unavailable for some. Venture capital has moved "upstream" to where the average investment by firms last year was $8.3 million per investment. Only about 4 percent of the capital went to early-stage companies, with all other investment activity occurring in later stage deals. Private and angel investors who once attempted to fill most of this gap reduced their investments by more than 26 percent in 2008, and the availability of investment capital among this category has decreased dramatically by 40 percent.

Over the past decade, state governments have led the charge in their own jurisdictions to address this early-stage financing gap or what has come to be known as "The Valley of Death" in the world of entrepreneurship. But now state budgets are also in crisis mode and have less money to invest in technology-based economic development initiatives. Recently Ohio, Kansas, Connecticut, and Pennsylvania, just to name a few, have all either reduced economic development spending or suggested wide consolidations to control it.

TABLE 2

Survey Finds Financing for Innovation in Crisis

Seed- and early-stage investors and entrepreneurs are struggling more than usual

Venture Funding
90 percent of the already-funded companies can't obtain follow-on funding to get to the next level. Without this follow-on funding, they will die and a generation of great ideas will die along with them
75 percent of the money received by seed- and early-stage venture funds comes from private investors
70 percent of the money needed to fill this early stage investment gap is less than a million dollars per company
60 percent of early-stage funds aren't making any new investments
Entrepreneurial Companies
75 percent of the companies investors are putting money into can't leverage that money into bank financing
42 percent of the companies investors are putting money into have been stripped of their lines of credit

In April 2009, the National Association of Seed and Ventures Fund, at the request of the Small Business Administration, surveyed seed- and early-stage venture funds as well as entrepreneurial support professionals to find out the state of seed- and early-stage funding for innovative-based entrepreneurial companies. The survey found that 70 percent of seed/early stage venture investment funds are having a difficult time raising capital from private investors, pension funds, local, county and state authorities. The most startling finding was that nearly 90 percent of the already-funded companies surveyed are currently unable to attract follow-on capital, and that 70 percent of these companies need less than a million dollars to continue their business and product development (see Table 2).[16]

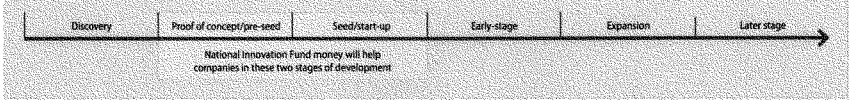
The upshot: there is a desperate need among a lot of young entrepreneurial companies for not a lot of seed- and early-stage financing rounds—and that capital cannot be found.

CREATING A NATIONAL INNOVATION SEED FUND

We believe the federal government can play a role in funding these entrepreneurial companies, thereby stimulating innovative job and small business growth. Neither traditional financial institutions nor venture capitalists are providing the gap funding of $500,000

FIGURE 7

Innovation Capital Lifecycle



to $2 million that seed-stage and early-stage companies need to grow. Our solution is to create a National Innovation Seed Fund sparked by a U.S. federal government investment. This fund would make venture investments in that key financing range to structurally address the "Valley of Death" funding needs of small companies, and would be invested equitably and equally throughout the innovative regions of the United States.

This new fund would be structured as a public-private partnership and would enlist experienced early-stage investors to manage the fund. The National Seed Stage Fund managers would work with the NPPPIP to engage the rest of the innovation ecosystem in the United States to ensure strategic oversight and success. The NPPPIP would determine the most experienced early-stage funds that would then invest in innovative companies in their regions. It would collaborate with state technology-based economic development organizations, national seed, angel, and other innovation-based associations and networks to leverage resources and create a connected national community of innovation.

Examples of organizations are the Ben Franklin Technology Partnership in Pennsylvania and the National Association of Seed and Venture Funds. The consortium of partnership organizations would guarantee the effectiveness of the National Innovation Seed Fund by creating quality investment opportunities with the investments and participation of the Federal Innovation Partnership program and the National Innovation Advisor. The overall purpose of the fund is to stimulate rapid knowledge-economy job creation as demonstrated can be done from the data from the Small Business Administration.

Federal money for the new seed fund would be appropriated through an agency such as the Small Business Administration or U.S. Department of Commerce's Economic Development Administration or National Institute of Standards and Technology, and would be managed through the National Public-Private Partnership Innovation Program. The federal agency would manage the contractual relationship with the NPPPIP and maintain administration, audit, and financial reporting functions.

The investments would at some point generate a financial return on investment for the federal government, though for budget purposes those returns would have to be anticipated over the course of 10 years—like any venture capital firm would do—which means funds must be allocated until investment maturity can be realized five or more years into the future. More immediately, however, the $2 billion would be invested in new companies creating new high-skilled, high-paying jobs, thereby adding to immediate post-recession economic stimulation.

These types of seed fund investments would be made right before most venture capital firms would look at investing, which, is risky but also rewarding. Many venture-backed companies are or quickly become the most innovative and prosperous companies in the world. A Global Insight report in 2007 found that venture capital-backed companies were directly responsible for just over 10 million jobs and $2.1 trillion in sales in 2005, which represents 9 percent of total private sector employment and 7 percent in total sales.[17] Furthermore, venture capital-backed companies created jobs three times faster and pay significantly more than the average private-sector jobs.

We have studied other sources to gauge the impact of a National Innovation Seed Fund and found that for each $1 billion invested in innovative small businesses a minimum of 100,000 high-skilled, high-wage jobs would be created. The Commonwealth of Pennsylvania's Department of Community and Economic Development, the longest existing organization investing early-stage capital, in 2008 created or retained 8,150 jobs based on a total of $90.7 million in investments or $11,130 per job.[18] If you applied Pennsylvania's $11,130 in seed dollars invested per job to the $2 billion of potential funding for the national innovation seed fund, 180,000 new jobs would be approximately created with the opportunity to retain many of the high-skill and high-paying jobs into the future. This same result was confirmed in a study completed by the Community Development Venture Capital Alliance of more than 50 providers of community development venture funds that make equity capital and grant investments to build entrepreneurial capacity and community wealth.

A NATIONAL PUBLIC-PRIVATE PARTNERSHIP INNOVATION PROGRAM

National innovation intermediary to implement different program elements

Our chart on page 7 illustrates that a non-profit National Public-Private Partnership Innovation Program sits at the center of our national innovation framework. This NPPPIP would administer unique innovation programs to fill the innovation life cycle gaps that exist in America today, including support in the areas of intellectual property and technology transfer, early-stage business and product development, early-stage financing, commercialization, technical assistance and mentoring and the implementation of other programs to address key issues. This program would also oversee the national innovation seed fund investments in tandem with the Federal Innovation Partnership program and the National Innovation Advisor.

Above all, though, this non-profit, public-private organization would act as a strategic mechanism to engage the innovation ecosystem like any strong outreach and implementation-driven organization. Its effectiveness would be supported by the consortium of partnership organizations, in which it will lead and also its partnership with the new Federal Innovation Partnership program and the National Innovation Advisor. The proposed partners in

this organization would include but not be limited to the following organizations, which together represent significant sectors that support the acceleration of the nation's innovation economy:

- American Society of Mechanical Engineers
- Angel Capital Association
- Association of Public and Land-grant Universities
- Association of University Research Parks
- Association of University Technology Managers
- Community Development Venture Capital Alliance
- National Association of Seed and Venture Funds
- National Business Incubation Association
- State Science and Technology Institute

The unique partnership of national organizations and associations practicing innovation-based economic development would provide a point of cross linkage for both practitioners and constituents, enabling it to implement significant programs with the buy-in of a variety of stakeholders including venture and angel networks, business incubators, research parks, university technology managers, and the nation's largest network of engineers. This network will prove to be critical to launch a strategic innovation-based implementation agenda for our country.

Furthermore, this partnership will be able to elevate efforts and directly link with intermediaries and other bodies in states and localities throughout the United States, which is not currently a shared agenda by the federal government. Regional intermediaries have been effective in operating in states and localities to accomplish strategic agendas with multiple partners and many stakeholders.

These organizations can successfully launch a paradigm shift to transition and position places, people, and organizations to nurture innovation-based economies. Our approach introduces the concept of a comprehensive national broad-based innovation intermediary that would fulfill this role. And the ability of the organization to operate outside the realm of the federal government would help ensure swifter implementation and leadership on strategic agendas while receiving input from a National Innovation Advisor with access to the President and Federal Innovation Partnership of government agencies.

A further function of this organization would be to operate programs and serve as an accelerator that advances technologies into the marketplace for the increased stimulation of innovation in the national economy. The partners' deep experience in this organization in early-stage investing would be instrumental in the deployment of the National Innovation Seed Fund as well as our proposed Technical Assistance Grant Fund, which would be administered by this non-profit organization. Support for this fund will come from the same originating agency of the NISF and remain a constant percentage of the overall investment pool.

The proposed Technical Assistance Grant Fund would serve as a support fund for early-stage investing, similar to the technical assistance fund currently affiliated with the New Markets Tax Credit program. The public-private partnership organization would select the best programs for business mentoring practices and due diligence support, and would provide funding for business incubation and acceleration models that incorporate virtual models, including the iBridge Network of the Kauffman Foundation and the National Innovation Marketplace currently supported by the U.S. Department of Commerce.

As project manager of the National Innovation Seed Fund and Technical Assistance Grant Fund, our public-private partnership organization would lead the charge in bridging problems in early-stage financing and commercialization of innovation-based enterprises. It would also operate other programs that are critical to building national innovation capacity, including those engaged in:

- Direct investment
- Commercialization
- Technical assistance, education, and mentoring
- Technology, economic and workforce development
- Networking, strategic planning, marketing, and branding

In short, the core competency of this organization will be the conception and formation of key innovation-based products and services that will assist the networks and leverage resources to the support networks working with individual entrepreneurs and others working to accelerate innovation on a national level.

CONCLUSION

Our National Innovation Framework boasts three core components: a National Public Private Partnership Innovation Program that sits astride a National Innovation Seed Fund and Federal Innovation Partnership Program, and collaborates with a new National Innovation Advisor. Together, the leaders of these components would deliver a central focus and create an optimized and integrated national network of many players that is essential to a national innovation strategy. We believe this structure is the best way not just to implement as well as enact a national innovation strategy.

The United States does not need a top-down innovation strategy that resembles government-led industrial policy, nor would such a proposal survive long in Congress or the halls of the Obama administration. Similarly, the United States simply cannot continue to run the current overlapping but uncoordinated sets of innovation programs that are failing to deliver the common national strategy our country needs to compete successfully in the 21st-century global innovation economy.

Instead, our country needs an innovation program that leverages the best talent from the public and private sector. It is the best policy solution. And it's the best political solution on Capitol Hill. For this reason, we believe a national public-private partnership innovation program is what Congress and the Obama administration should pursue immediately due to our current window of opportunity and the risk of losing ground to competing nations daily.

ABOUT THE AUTHORS

Richard Bendis

Mr. Bendis has distinguished himself as a successful entrepreneur, corporate executive, venture capitalist, investment banker, innovation and technology based economic development leader, international speaker and consultant in the technology and healthcare industries. He currently serves as the founding President and CEO of Innovation America, a national 501c3 not for profit, private/public partnership focused on accelerating the growth of the entrepreneurial innovation economy in America.

Mr. Bendis has been appointed to selected national innovation related organizations and committees that include the White House U.S. Innovation Partnership Advisory Task Force and Co-Chair of the Small Business Innovation Research Committee; the National Governor's Association, Science and Technology Council of the State's Executive Committee, the State Federal Technology Task Force, the National Academies committee on "Competing in the 21st Century: Best Practices in State and Regional Innovation Initiatives"; National Academies National Research Review of an Assessment of the SBIR Program; National Institute of Standards and Technology Manufacturing Extension Partnership National Advisory Board; U.S. Small Business Administration's Angel Capital Electronic Network Board of Directors; American Academy for the Advancement of Science—Nominating Committee and the American Association Research Competitiveness Program Advisory Committee; Council on Competitiveness—Clusters of Innovation Committee.

Mr. Bendis has also served as a board member and representative to the National Association of State Venture Funds—Founding Board member and Executive Committee member; American Society of Mechanical Engineers—Strategic Innovations and Initiatives Committee; State Science and Technology Institute—Founding Board member and Executive Committee member; Eisenhower Fellowships Nominating Committee and the Ernst and Young Entrepreneurial Institute as a national/regional Judge.

Mr. Bendis continues to provide global consulting services to several international organizations including the International Science Parks and Innovation Expert Group, the United Nations, NATO, UK Trade and Industry, European Commission, French Embassy, the German Marshall Fund, and others global ventures.

Mr. Bendis also founded and served as the founding President and CEO of Innovation Philadelphia, a 3 state regional public/private partnership dedicated to growing the wealth and workforce of the Greater Philadelphia Region. Innovation Philadelphia managed a portfolio of programs in four distinct areas: Direct Equity Investment/Financing Assistance; Technology Commercialization; Global/Regional Economic and Workforce Development; and Market Research and Branding. Mr. Bendis is on the IP Board of Directors.

Previously, Mr. Bendis successfully leveraged a career in the private sector (with Quaker Oats, Polaroid, Texas Instruments, Marion Laboratories and Kimberly Services) and the venture capital industry (RAB Ventures) to lead the Kansas Technology Enterprise Corporation. As its president and CEO, he developed KTEC into a globally recognized model for technology-based economic development. Mr. Bendis also successfully built an Inc. 500 healthcare software company, Continental Healthcare Systems, Inc., which he took public on NASDAQ and later sold to an international conglomerate. In addition, Mr. Bendis manages his own angel investment fund.

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Ethan Byler is Keystone Innovation Zone Coordinator at the Pennsylvania Biotechnology Center in Doylestown, PA. The Pennsylvania Biotechnology Center is a business incubator focused on translational research and business development with specializations in diagnostics and therapeutics for infectious diseases, hepatitis, and cancer. The Keystone Innovation Zone is designed to harness the knowledge of partnering institutions of higher education, private industry, and government resources to nurture and assist early-stage technology companies. Ethan's responsibilities with the Zone include business development, technology transfer, and working with the Regional Biotechnology Council.

Mr. Byler formerly worked for a consulting company focused on technology-based economic development in Washington, DC, New Economy Strategies LLC. His work there included management of regional innovation and growth projects, initiatives focusing on capital formation and entrepreneurship, rural economic development and the design of government led interventions in technology and innovation-based economic development. He has worked on strategies in Pennsylvania, New Jersey, New Mexico, Alabama, Kentucky, Connecticut, Utah, North Carolina, Michigan and Colorado.

Prior to joining NES, Mr. Byler was an Analyst with the Federal Funding Programs at Innovation Philadelphia where he provided technical support on grant applications, business plans, and the presentation materials of early-stage companies attempting to secure financing through private investment or Small Business Innovation Research grant.

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