

imaginestics

Small Business Technology Transition Support

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Background

As the Congressional record suggests¹, the Department of Defense's (DoD's) Small Business Innovation Research (SBIR) program and DoD-supported technologies, both those developed internally and by small businesses, have demonstrated their value to the war fighter. A partial list of these technologies that are currently saving money, saving war fighter lives and helping them accomplish their missions in Iraq and Afghanistan includes the *Silver Fox* UAV, the *Double Shot* anti-sniper system, SAFI security software, rotor blade anti-corrosion coatings for Army Blackhawk helicopters, touch-screens for numerous platforms, night-vision optical devices, battlespace management communications and many others.

We should be proud of these technologies that have made it to the front line in helping our nation's mission; however, there are thousands of technologies that did not make it, costing taxpayers billions. The majority of these technologies failed to get beyond the lab or the development phase, not because they were not innovative or lacked application in mission-readiness, but because they did not receive the right technical, business or financial support. A RAND Corp. study of DoD SBIR², and a landmark National Academy of Sciences study³, both cited the need for increased DoD SBIR transition outcomes. The Government Accountability Office's Acquisition and Sourcing Management Group has published several reports to Congress critical of DoD's technology transition process, calling for increased SBIR use⁴, and noting the precedent of small business technology innovation reducing cost for industry. The powerful DoD "Kubricky Report" made several recommendations for improving DoD's technology transition process, many of which have yet to be implemented⁵. Congress itself acknowledged DoD's need to accelerate SBIR product transition when they created a DoD SBIR Commercialization Pilot Program⁶. However, as our country faces tough budget cuts, increasing funding for commercialization programs is not an option. Transition obstacles and issues must be addressed creatively if the SBIR Program and other DoD technologies are to deliver more innovative technology solutions⁷ to our war fighters facing asymmetric warfare challenges in Iraq and Afghanistan and help meet the nation's small business jobs goals, as an Administration S&T official told Congress in 2009⁸.

¹ PL 111-84, the FY2010 National Defense Authorization Act, extended the DoD SBIR Program in the absence of Congressional

² Held, Bruce; *Evaluation and Recommendations for Improvement of the DoD SBIR Program*; RAND Corp; 7 December 2007

³ National Research Council; *An Assessment of the SBIR Program*; 2008; Sec. 5.9.8

⁴ E.g. GAO-06-883; *Stronger Practices Needed to Improve DoD Technology Transition Process*; Sept 2006

⁵ SECDEF; *DoD Report to Congress on Technology Transition*; Office of the Secretary of Defense; July 2007

⁶ PL 109-163; *National Defense Authorization Act*; Sec. 252; placed 20 May 2005 in HR 1815

⁷ See, in this regard, *A Strategy for American Innovation* published by the Executive Office of the President, September 2009.

⁸ John P. Holdren, Director – Office of Science & Technology Policy; *Letter to Hon. Mary Landrieu, Chairman – Senate*

Imaginestics' Innovation

Description

An innovative approach to solving this technology transfer dilemma is to leverage the commercial sector that supplies to the government as the catalyst for collaborating with these DoD-supported young technologies, presently in the Technology Readiness Level (TRL) 2 – 7 range.

Our core idea is to utilize current opportunities or solicitations that are created and posted every day by Department of Defense, using sites such as FedBizOpps, as the catalyst to create the connection of these technologies to suppliers that are currently bidding for the posted solicitations. The thought is to promote these technologies amongst suppliers that are currently registered with the DoD and/or providing products and services. The reason for making the connection using the current solicitations is to inspire the suppliers to connect with these technologists and have some form of partnership to provide better solutions to the DoD. However, one key assumption is that DoD would set up some form of incentive, benefit or credit to these suppliers that leverage technologies funded by the DoD in their response to the DoD solicitation. This idea has merit in creating a far reaching impact and changing the mindset amongst the entire DoD supply chain of not just doing the minimum to fulfill the current requirements of the solicitations, but rather come up with innovative solutions to help DoD reduce cost, inject new technologies into current weapon systems and become a true partner with the DoD in its quest for mission readiness.

This solution leverages the matchmaking concept using today's emerging social networking trend, which has taken human interaction and connection in cyberspace to a whole new level, and uses a knowledge-based ontology, the science of concepts and relationships. Online networking platforms, such as VizSpace, developed by Imaginestics, which connects buyers to suppliers using innovative shape search and a knowledge-based ontology infrastructure, leverage the power of social network connections in the most relevant manner to enable critical supply-chain decisions. This platform is used, among other things, to match suppliers to appropriate publicly and privately posted opportunities/solicitations that fit their capabilities. The proposed idea is to leverage this type of platform and create an ontology model that would define the concepts that apply to technologies developed by SBIR companies and other DoD technologies and then define concepts that apply to opportunities or solicitations from DoD. For example, a concept for a new process might be "cold spray technology" and concepts for a solicitation for painting a helicopter blade might be "paint removal" and "painting." With the ontology model, we could then define relationships between these concepts. In the example just stated, the process concept - "cold spray technology" might have an application relationship to the "paint removal" concept. Therefore, when a supplier with traditional paint removal capabilities is linked to the solicitation, the "cold spray technology" along with the technologist is suggested to help fulfill the solicitation.

An online networking platform such as VizSpace provides the medium and the engine needed for this match to take place. Each day, opportunities would be scraped from FedBizOpps, OEMs, and

other buyers, which would then be parsed; the system would make the concept matches defined in the ontology, and suggest the appropriate technology to the suppliers who receive the opportunity. This will enable the connection and put the information about the technology directly in the hands of people most likely to use it and promote its transition. This concept is illustrated in the figure below:

