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Upcoming Events and Conferences LightSpeed Innovations will be at:

UAS West March 2-3, 2016

<http://www.uaswest.com/venue-unmanned-aircraft-conference-technology-training/>

**Wharton Aerospace Ventures:
21 April 2016, San Francisco. Interested, please contact**

ellen.chang.wg98@wharton.upenn.edu

Space 2.0 Crown Plaza, Silicon Valley, 26-28 April 2016

<http://www.space-2-0.com/>

Small UAS (suas) Business Exposition, The Golden Gate Club at The Presidio, San Francisco - 27-28 April 2016

<http://susbexpo.com/>

Contact Us

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Innovation in A&D and a Call to Action

Much has been written about Aerospace & Defense Innovation lately. We already know that the Pentagon at the Secretary of Defense level has set up an innovation outpost in Silicon Valley. We have now noticed that the various services - Navy, Army, Air Force - have or are contemplating setting up their own SV offices.

A more progressive conversation we have had lately has been with the National Defense University. It is in the process of setting up a pilot intrapreneurship program based on the Lean launchpad methodology. The gist is to provide a platform for developing a foundation of talent (not IP, not products,) who can innovating efficiently, effectively, engage within the DoD, engage outside of the DoD.

This is great! Developing talent in this way is imperative. Won't the talent get the skills and leave? Yes, some will. Some would anyways. They would leave with good knowledge of the industry and help build needed linkages and networks. But, a large number will not. Those that do not may not be in the position to do so. Or, they may not have the desire to do so. Regardless, the skills learned can only serve to enhance the DoD organizations they are a part of.

There is another reason to educate our talent base. The commercial world is increasingly responsible for innovations that impact aerospace and defense, a traditionally government funded domain. Our talent needs to know how to interact with this commercial innovation ecosystem that is diverse, unpredictable, and moves at lightening pace. Whereas in the past, the size of the DOD R&D enterprise relative to other potential

sources of R&D funding was sufficient to ensure robust, broad-based university and industry engagement with DOD, today this incentive may no longer be sufficient. In particular, the emergence of international commercial and consumer high-tech markets over the past two decades has substantially displaced DOD as the center of gravity for global R&D activity.

Byron Callan of Capital Alpha partners recently noted the following: “ The FY17 DoD RDT&E request is \$72 billion. Independent research and development expense by large cap U.S. firms was ~\$3.5 billion (Boeing Defense, L-3, Lockheed Martin, Northrop Grumman and Raytheon). The top-ten largest U.S. commercial technology companies spent ~\$85 billion in R&D expense in 2015. Samsung spent \$14 billion in R&D in 2015. CB Insights tallied \$1.76 billion of investment in Space start-ups in the first half of 2015. It also reported \$107 million invested in drone start-ups in 2014, and through the first five months of 2015, investment in this sector rose 61%. According to the 2016 Silicon Valley Index, “74% of all Silicon Valley employed Computer and Mathematical workers age 25 44 are foreign born” (we don’t know how many of that cohort are U.S. citizens). These are just raw measures of inputs and say nothing about the output of those investments or the disparities represented by the engineering and technical talent these respective investments flows attract.”

Well said; proportionately speaking, DoD/IC/Gov't does not have as large a funding voice. Time for the A&D industrial base to learn how to use "Other People's Money" as well as synergize investments.

Dynamics of Corporate Innovation Part B

Techstars, one of the foremost start-up accelerators around, started to partner with industry giants in certain sectors to foster innovation in that sector: Disney’s Media & Entertainment Accelerator, Qualcomm’s Robotics Accelerator, and, most recently, Cedars Sinai’s Healthcare/Biotech Accelerator. The model is that Techstars offers their network and methodology to source innovative start-ups which the corporation then invests in and nurtures

with internal talent as well as being a prospective customer.

LightSpeed Innovations has looked at this model and finds it interesting but probably too expensive and far reaching for Aerospace & Defense. Companies would be hard pressed to justify the \$100,000 per company which would not get the companies that far anyhow. Plus, the accelerators are not outfitted with the test space and equipment often needed. However, the concept of using a platform external to a company rather than building a platform from within resonates. It resonates for a couple of reasons – not the least of which an external entity brings different thinking and answers to a different chain of command, which, in some ways,

In this vein, we have had conversations with a couple of aerospace companies about how employing our “start-up accelerator” or “business bootcamp” platform as an environment for chosen teams to learn, gain experience, perhaps even commercialize and scale some of the internal technologies that have been in work. The thought is that some of their high potentials are seeking these challenges external to the corporation anyhow – is there a way to co-opt their desire, couple it with some funded initiatives, and potentially benefit from the results in 3-5 years? Why not send them as independent teams, possibly with company IP, through the business bootcamp where product market fit is sought so that a solid ROI can be defined?

The dialogue has also been about whether or not to have a cohort of teams just from one company or mix a team or two with independent start-ups. Both could work – the benefits derived vary; the experience also varies. We will address the nuances in our next post.

About LightSpeed Innovations

LightSpeed Innovations is *the* Aerospace Start-up Factory that offers startups access to a large network of experts, mentors, and investors in the industry during an intensive three-month business boot-camp. LightSpeed Innovations is dedicated to fostering innovation and entrepreneurship in the U.S. aerospace sector. www.lightspeedic.com.