# THE CAPABILITY DEVELOPMENT CHALLENGE

**Background:** The U.S. Government (USG), specifically the Department of Defense, was at one point in history one of the primary drivers of tech innovation. Unfortunately, those days are long gone and due to the exponential growth of technology and technological disruptions Industry is outpacing the USG by a significant margin which in turn provides our adversaries with an opportunity to close the gap and challenge America's competitive advantage. A portion of this dilemma relates to the USG's outdated business/acquisition practices (a much larger and more complex discussion), but a large portion can be attributed to disconnects between the operational and scientific communities.

**Insight from Steve Jobs:** In 1997, when Steve Jobs was making his big return to Apple and sharing his vision in a public forum with many of his peers, one of the more skeptical attendees publicly asked a question casting doubt on the vision and questioning Steve Jobs' understanding of Java and how it addressed ideas in OpenDoc. Aside from the lessons learned in maintaining composure when insulted, the "aha moment" was Mr. Jobs' vision of shifting the paradigm away from creating a capability and then finding the market to beginning with the customer experience and engineering backwards with the customer's needs in mind. This is similar to the issues in government today- with many research and development efforts focusing on capability development without a clear understanding of the "customer"/end user requirements or how the capability will be employed/deployed.

**Operational/End User Challenges:** "Operators" have the best understanding of the tactical environment and what capabilities are required to maintain competitive advantage and dominate their battle space/domain (land, air, sea, cyber, space…etc.). As such, the most effective units/organizations will be those that are "bottom-up" driven in terms of setting capability development requirements and identifying capability gaps. The current challenges impacting scientific/capability development community are the following:

1. Aligning Schedules: Operators are extremely busy training, preparing to deploy, deploying, and then reconnecting with their families/friends. This leaves little "white space" on calendars for face-to-face discussions on requirements and input for capability development.
2. Communication Barriers: The Operational and Scientific Communities have different cultures, different value props, different perspectives, and different ways of communicating. Exacerbating things is that each side can suffer from intimidation: Operators intimidated by the extremely intelligent/brilliant scientist and the scientist/engineer intimidated by the large, type A personality usually associated with operators. This leads to strained communication and a lack of clarity when describing/detailing capability gaps and requirements.
3. The Transient Nature of Operators: The third factor preventing efficient capability development is that the Operational Community is transient in nature- preventing consistent input and a "shepherding" presence throughout the project life cycle. Deployments, promotions, transfers, and retirements all disrupt a consistent presence from the Operational community, often resulting in conflicting input/requirements and inefficiency as multiple operators inject with minimal background or understanding- often to the detriment and frustration of the project team.

**Scientific/Performer Challenges:** Capability development performers have the best understanding of the engineering/science required to create technological capabilities and fill operational community Technology gaps. The Scientific Community shares some of the same challenges found in the operational community, most notably the busy schedules and communication barriers discussed previously. Additional challenges are:

1. The "Curious"/Perfectionist Nature of Scientists and Engineers: Scientists are curious by nature and are "hardwired" to fully understand every aspect of a capability prior to displaying outside of the project team. Engineers are perfectionist by nature and "hardwired" to add features and over-engineer a capability to prove their technical abilities and proficiency as an engineer. Both are good traits that can lead to delays due to emotional connection to passion projects and/or the delay to add features that are unnecessary for mission success.
2. The Cautious Nature of Performers: The USG model, for decades, has been incremental and scalable tests that prove/disprove theories and a reluctance to showcase prototypes for fear of test "failure" and loss of faith/interest from sponsors and operators. This is a "safe" and unfortunately slow strategy for capability development- industry has proven that the rush to failure model is much more efficient at obtaining data and developing disruptive capabilities.
3. Cylinders of Excellence/Stovepipes: This challenge is shared and exacerbated by the operational community. Performers and operators tend to develop exclusive relationships once established- often limiting collaboration/information exchange with those outside the direct project development team (operators want the exclusive capability while performers enjoy the sole source relationship/relevancy). These cylinders of excellence prove stifling to innovation and advancement of capability.

**Solution:** BVG & Company is comprised of former operators with extensive experience in the interagency, whole of government, and capability development "world". Our model is to imbed with performers to provide operational perspectives early to assist with interaction with the operational community. We participate in the initial engagements to assist with the communication and understanding of the operational requirements, and then continue to participate throughout the project life cycle to ensure end user requirements continue to be the focus and the project maintains momentum/progress. Finally, we possess the flexibility to travel between sponsor and vendor locations frequently- building trust and relationships to foster a more aggressive/rush to failure strategy while minimizing disruptions from personnel changes.