Paul Solomon
3307 Meadow Oak Drive
Westlake Village, CA 91361
Paul.solomon@pb-ev.com

June 25, 2024

The Honorable William LaPlante
USD(A&S)
1010 Defense Pentagon
Washington, DC 20301-1010

Subject: Digital Engineering Acquisition Policy and Congressional Oversight Issues

Dear USD LaPlante:

This letter about digital engineering (DE) is a "twin" to my letter dated August 1, 2023, Subj: Software Acquisition Policy and Congressional Oversight Issues. The first letter cited your nomination hearing response to a question about EVMS. You replied, "I will work across the Department and with the industrial base— current and emerging—to validate, improve, ***or establish appropriate metrics across the acquisition pathways***."

The corresponding DE question and answer follow:
52. If confirmed, what steps would you take, if any, to require contractors that employ the DOD DE Strategy to maintain valid information in the digital authoritative data source that is sufficient for program managers to make informed and timely decisions to manage cost, schedule, performance, and risk?

Your reply included: "A combination of strong data, tool and modeling standards and environments, …and proper contract….guidance are foundational to enabling successful adoption of DE to feed the ***right cost, schedule, performance and risk data*** to our acquisition decision makers."

Balky Start

My recent letters cite balky starts and shortcomings during early implementation of DE, as follows:

To USD (Army) Gabe Camarillo, Subj: Army Digital Engineering Directive vs. DoD Policy and GAO's Call for Output-based Metrics, 6/23/24:

> The Army Directive 2024-03 DE is silent on two of four DoD DE Capability Elements and on outcome-based metrics. The integration of these elements is required by DODI 5000.97 DE. Per the GAO, "without the use of outcome-based metrics and continually assessing the value of what was delivered against user needs,…might deliver capabilities and features that are not essential to the customer and that could contribute to schedule and cost overruns."

To HASC Vice Chair Wittman, dated June 16 and 17

> To obtain the speed of relevance and respond to GAO findings, please obtain certification that all DE capability elements are integrated and that outcome-based metrics are finally being used to manage

the program. There should be a digital thread between those metrics, the digital models, and the digital artifacts.
Please take corrective legislative or oversight actions to include all DE Capability Elements in the requirements for certification on improvements. The four DE Capability Elements (in DoDI 5000.97 DE) are: 1. DE ecosystem. 2. Digital models (Including digital twins). 3. Digital threads. 4. Digital artifacts.

What good are digital twins to support development and test without adequate metrics and management controls? The F-35 program will repeat its past failures unless you hold its program managers accountable to integrate DE with systems engineering (SE), program management, and outcome-based metrics.

To you, Subj: NDAA for FY 2025, Digital Engineering and Digital Twins, June 13
Appendix D of the *Embedded* white paper covers the use of digital threads and digital artifacts for cost estimating and scheduling. The DE artifacts should be the Authoritative Sources of Truth for cost, schedule, and technical performance to meet Congress's intent, achieve NDIS objectives, respond to GAO recommendations, and preclude botched metrics.

Whole hog, not half-assed attempts

Please establish policy, guidance, and oversight to "enable successful adoption of DE to feed the right cost, schedule, performance and risk data to our acquisition decision makers." My white papers provide a template.

We need all four DoD DE Capability Elements and outcome-based metrics. DoD policies and contractual requirements should go the *whole hog* to ***buy a product that works*** (not a SOW).

YES **NO** **NO**


Half-assed efforts, such as omitting DE capability elements and outcome-based metrics, won't result in a DE ecosystem that include the processes, methods, and practices necessary to conduct DE, are the basis for accomplishing engineering activities and generating knowledge through digital threads and in the form of digital artifacts by extracting information from digital models.

Paul J Solomon

Paul Solomon

CC:

Hon. The Hon. USD (Army) Gabe Camarillo
Hon. Adam Smith, HASC
Hon. Heidi Shyu, (USD(R&E))
Hon. SON Del Toro
Hon. Andrew Hunter, AF Asst. Sec. for AT&L
Anthony Capaccio, Bloomberg News
Hon. Robert Wittman, HASC
Hon. Donald Norcross, HASC
Hon. Elizabeth Warren, SASC
Hon. Nickolas Guertin (ASN RD&A)