

## Supporting capability development with analysis

Today, the Army is conducting its most significant restructuring effort since 1973, designing and establishing a new Army futures command (AFC). The driving force behind this effort is a concern that the Army's current acquisition system would make a future near-peer fight very challenging. Whatever its final form, a modernized, AFC-led acquisition system will hinge upon the Army improving its capabilities development and associated requirements-determination processes, which will necessitate an enterprise-level refocus across the Army's analysis community.

Leaders within the Army analysis community, in coordination with the task force designing AFC, recently drafted an initial concept for executing integrated analysis that supports the new command. Key to implementing this concept will be a commitment to supporting capabilities development. The Army's Training and Doctrine Command (TRADOC) has spearheaded the Army capabilities development for the past 40 years. However, TRADOC and the Army have at times struggled to define and evolve capability requirements. Our decentralized capabilities-development enterprise can lead each of the Army's branch proponents to establish requirements that can optimize that branch's functional capabilities. This leaves Army senior leaders to adjudicate and prioritize these competing functional requirements as they attempt to address the Army's most pressing problems. Further, we too often establish requirements without first validating their technical feasibility and ultimate affordability.

Two essential characteristics of the initial analysis concept address these critical capability-development shortfalls. First, AFC analysis will be driven from the top-down rather than from the bottom-up. Senior leaders will provide purpose and intent for analysis across the command, thereby establishing unity of analysis effort. Second, the command's analysis efforts will begin with a thorough examination of the problem and only then undertake an exploration of the viable solution space. This focus on problem definition will place even greater emphasis on conducting capabilities analysis that improves requirements determination.

Even before announcing the new AFC, Army senior leaders had begun to reinvigorate the Army-requirements oversight process using the new authorities provided in National Defense Authorization Act 2016. Army leaders were keenly interested in improving processes to establish better threshold and objective requirements, that is, minimally acceptable and significantly more valuable (yet still feasible) system capabilities, respectively.

The TRADOC Analysis Center (TRAC) has recently spent a substantial amount of time relearning and then sharing best practices of requirements analysis. Working closely with Headquarters, the Department of the Army and with the Army's branch proponents, TRAC has helped build defensible, compelling evidence to underpin Army requirements. One such effort supported the Future Vertical Lift Capability Set 3 analysis of alternatives by helping



the study team identify the future utility helicopter's most important attributes and the appropriate levels for those attributes.

To determine the helicopter's required capabilities, the study team conducted a wargame in which experts from across the Army planned a large-scale, ground combat operation against an anticipated near-peer threat, to include developing the requisite Army aviation concept of support. The study team went on to translate the aviation-support concept's mission demands into detailed air movement tables that reflected battlefield geometry, synchronization in time and space and necessary passenger movements. These air movement tables allowed the team to identify technically feasible combinations of utility-helicopter range, speed and seating capacity that could enable aviation units to fully support the ground combat operation. By conducting the sensitivity analysis, the study team illuminated ranges of feasible solutions to provide trade space for Army decision makers.

The Army continues to employ and refine best practices of requirements analysis, which have provided valuable insights to the Army's most senior leaders and will, no doubt, benefit future AFC leaders. This brand of up-front capabilities development analysis will enable AFC and the Army to reduce the requirements determination timeline, better inform prototype development and provide our soldiers with the right tools, at the right time, to fight and win.

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