

INSTITUTE FOR DEFENSE ANALYSES

Using the Defense Industrial Base Optimization Model (DIBOpt) to Improve Readiness and Procurement in DOD

Presentation to Military Operations Research Society National Security Risk Analysis Community of Practice July 27, 2023

> Dr. Jim Thomason Ms. Julie Kelly Dr. Quentin Robinson Dr. Sean Oxford

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> INSTITUTE FOR DEFENSE ANALYSES 730 East Glebe Road Alexandria, Virginia 22301



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About This Publication

This work was conducted by the Institute for Defense Analyses (IDA) under SFRDSR. The views, opinions, and findings should not be construed as representing the official position of either the Department of Defense or the sponsoring organization.

For More Information: Dr. James S. Thomason, Project Leader jthomaso@ida.org, 703-845-2480

Ms. Jessica L. Stewart, Director, SFRD jstewart@ida.org, 703-575-4530

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Executive Summary

Changes in the global landscape (e.g., COVID-19, conflict in Ukraine) have exacerbated previously existing challenges and risks related to the procurement and inventory management of essential items. This lunchtime presentation to the Military Operations Research Society's National Security Risk Analysis Community of Practice describes a tool developed by the Institute for Defense Analyses: the Defense Industrial Base Optimization Model (DIBOpt).

Federal agencies use DIBOpt to facilitate procurement and investment decisions to minimize risk. More specifically, the U.S. government has used DIBOpt to prepare budget and procurement plans for medical countermeasures, and the Department of Defense has used the tool to examine the effects of precision-guided missile supply chain constraints on efforts (and timelines) to improve military readiness.

DIBOpt allows military planners to consider a variety of factors, including industrial base capacity, sub-tier bottlenecks, price increases, sole-source manufacturers, product modernization, changes in required quantities, constrained budgets, and numerous additional factors. The complexity and evolving nature of managing these inventories (both medical and munitions) calls for a modeling solution to efficiently collect relevant input data and generate quick-turn analyses.

DIBOpt also allows decision makers to explore the supply chains that support key items to determine 1) where bottlenecks exist, 2) the effect of those chokepoints on the ability to build inventories, and 3) the mitigation strategies necessary to reduce risk associated with inventory deficits.

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